



# *LED Power Supply*



*October*  
**2014**

# About MEAN WELL

Established in 1982, MEAN WELL is a leading standard switching power supply manufacturer with advanced manufacturing facilities in Taiwan, GuangZhou, and SuZhou as well as sales offices in China, USA, and Europe. We have more than 5,000 standard models selling through 200 authorized distributors all over the world.

Since 2006, we started to endeavor the development for waterproof LED power supplies. Thus far, more than 1000 models complying with specific lighting norms per UL8750, UL1310, UL879, EN61347-2-13, IEC61347-2-13(CB), and EN61000-3-2 Class C (harmonic current) have been launched in the market with utmost success. In this catalog, we are glad to introduce you different types of LED power supplies, which are very suitable for all kinds of outdoor or indoor LED lighting related applications, such as LED street lighting, LED tunnel lighting, outdoor electronic display, office lighting, LED decorative lighting, LED architectural lighting and others.

If these LED power supplies cannot directly fulfill your requirement, please look into MEAN WELL standard industrial switching power supplies, ranging from 5W to 5,000W, for more selection.

Please visit our website for more details — [www.meanwell.com](http://www.meanwell.com)

## New Products Overview

### OWA-60/90/120

60~120W External Type

- Class II (no F.G.) , 90~264VAC input
- No load power consumption<0.15W
- UL8750 LISTED, EN61558/EN60335 LISTED
- EISA 2007(Level VI), ErP step 2 (Level V)
- Output models:  
12V / 15V / 20V / 24V / 30V /  
36V / 42V / 48V / 54V
- 5 years warranty



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### LCM-25(DA)/40(DA)/60(DA)

25~60W Multiple-Stage Io Level Selectable

- Class II (no F.G.) , 180~277VAC input with PFC
- No load power consumption<0.5~1W
- Dimming function: 0~10VDC / PWM signal / DALI interface / Push dimming
- Support synchronization function up to 10 units
- Output current level selectable by DIP switch:  
350 / 500 / 600 / 700 / 900 /  
1050 / 1400mA
- 3 years warranty



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### PWM-40/60/90/120

40~120W PWM Output with PFC

- Class II (no F.G.) , 90~305VAC input
- Constant voltage PWM style output
- No load power consumption<0.5W
- 2 in 1 dimming function
- Output models:  
12V / 24V / 36V / 48V
- 5 years warranty



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### HLG-600H

600W High Efficiency with PFC

- 90~305VAC input
- High efficiency up to 96%
- Fanless design and high IP level , suitable for outdoor environment
- Output models:  
12V / 15V / 20V / 24V / 30V /  
36V / 42V / 48V / 54V
- 5 years warranty



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# AP series

## 12~35W Single Output LED Power Supply

### Features

- Universal AC input / Full range
- Fully isolated plastic case
- Protections: Short circuit / Overload (APV only) / Over voltage
- Constant voltage mode for APV series
- Constant current mode for APC series
- IP30 design
- Withstand 300VAC surge input for 5 seconds (APV/C-25/35)
- Class 2 power unit / Pass LPS (except for APC-25-350 & APC-35-350/500)
- Isolation class II, no F.G.
- Cooling by free air convection
- 100% full load burn-in test
- Low cost, high reliability
- Suitable for LED lighting and moving sign applications
- 2 years warranty

		APV-12/16	APC-12/16	APV-25/35	APC-25/35
<b>INPUT</b>					
<b>OUTPUT</b>					
AC input voltage range	90~264VAC ; 127~370VDC				
AC inrush current (max.)	APC/V-12: Cold start, 70A at 230VAC APC-16: Cold start, 45A at 230VAC APV-16: Cold start, 50A at 230VAC		Cold start, 45A at 230VAC		
Overload protection (APV only)	Range	>105% rated output current			
	Type	Hiccup up mode, auto-recovery			
Over voltage protection	110%~145% rated output voltage				
Withstand voltage	I/P-O/P: 3.75kVAC		I/P-O/P: 3kVAC		
Working temperature	-30~+70°C (refer to output derating curve)				
Vibration	10~500Hz, 2G 10 minutes /1 cycle, period for 60 minutes each along X, Y, Z axes				
Safety standards	UL8750, ENEC EN61347-1/2-13, EN62384, IEC61347-1/2-13 approved; Design refer to IEC60950-1		UL8750 approved (except for APC-25-350&APC-35-350/500); Design refer to TUV EN60950-1		
EMC standards	EN55015, EN61000-3-2 class A, EN61000-3-3, EN61000-4-2,3,4,5,6,8,11, EN61547		EN55022 class B, EN61000-3-2 class A, EN61000-3-3, EN61000-4-2,3,4,5,6,8,11		
Connection	Input	UL rated, 18AWGx2C (15cm)		UL rated, 18AWGx2C (15cm)	
	Output	UL rated, 20AWGx2C (15cm)		UL rated, 18AWGx2C (15cm)	
Dimension (LxWxH)(mm)	77x 40x 29		84x 57x 29.5		

### APV-12 Series (C.V. mode)



Model No.	Output	Tol.	R&N	Effi.
APV-12-5	5V, 0~2A	±5%	100mV	76%
APV-12-12	12V, 0~1A	±5%	120mV	82%
APV-12-15	15V, 0~0.8A	±5%	120mV	82%
APV-12-24	24V, 0~0.5A	±5%	150mV	84%

### APC-12 Series (C.C. mode)



Model No.	Output	Io Tol.	R&N	Effi.
APC-12-350	9~36V, 350mA	±8%	300mV	82%
APC-12-700	9~18V, 700mA	±8%	250mV	80%

### APV-16 Series (C.V. mode)



Model No.	Output	Tol.	R&N	Effi.
APV-16-5	5V, 0~2.6A	±5%	100mV	76%
APV-16-12	12V, 0~1.25A	±5%	120mV	80%
APV-16-15	15V, 0~1.00A	±5%	120mV	81%
APV-16-24	24V, 0~0.67A	±5%	150mV	83%

### APC-16 Series (C.C. mode)



Model No.	Output	Io Tol.	R&N	Effi.
APC-16-350	12~48V, 350mA	±8%	300mV	84%
APC-16-700	9~24V, 700mA	±8%	250mV	83%

### APV-25 Series (C.V. mode)



Model No.	Output	Tol.	R&N	Effi.
APV-25-5	5V, 0~3.5A	±5%	120mV	75.5%
APV-25-12	12V, 0~2.1A	±5%	150mV	82.0%
APV-25-15	15V, 0~1.68A	±5%	150mV	83.0%
APV-25-24	24V, 0~1.05A	±5%	150mV	83.0%
APV-25-36	36V, 0~0.7A	±5%	150mV	84.0%

### APC-25 Series (C.C. mode)



Model No.	Output	Io Tol.	R&N	Effi.
APC-25-350	25~70V, 350mA	±8%	300mV	83%
APC-25-500	15~50V, 500mA	±8%	300mV	83%
APC-25-700	11~36V, 700mA	±8%	300mV	83%
APC-25-1050	9~24V, 1050mA	±8%	300mV	83%

### APV-35 Series (C.V. mode)



Model No.	Output	Tol.	R&N	Effi.
APV-35-5	5V, 0~5A	±5%	120mV	76.5%
APV-35-12	12V, 0~3A	±5%	150mV	83.0%
APV-35-15	15V, 0~2.4A	±5%	150mV	84.0%
APV-35-24	24V, 0~1.5A	±5%	180mV	84.0%
APV-35-36	36V, 0~1.0A	±5%	180mV	85.0%

### APC-35 Series (C.C. mode)



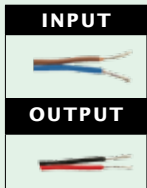



Model No.	Output	Io Tol.	R&N	Effi.
APC-35-350	28~100V, 350mA	±8%	350mV	84%
APC-35-500	25~70V, 500mA	±8%	350mV	84%
APC-35-700	15~50V, 700mA	±8%	350mV	84%
APC-35-1050	11~33V, 1050mA	±8%	350mV	84%

# LP series

## 18~35W Single Output LED Power Supply

### ► Features

- LPL-18: 90~132VAC input only  
LPH-18: 180~264VAC input only  
LPV: 90~264VAC input
- Fully encapsulated with IP67 level
- Protections: Short circuit / Overload / Over voltage / Over temperature (LPH-18/LPL-18 only)
- **Constant voltage mode**
- Class 2 power unit / Pass LPS
- Isolation class II, no F.G.
- Withstand 300VAC surge input for 5 seconds (LPV-20/35)
- Cooling by free air convection
- 100% full load burn-in test
- Low cost, high reliability
- Suitable for LED-based decorative/architectural lighting, LED stage and theater lighting, and LED electronic displays
- 2 years warranty

		LPL-18	LPH-18	LPV-20	LPV-35
					
AC input voltage range		90~132VAC	180~264VAC	90~264VAC	
AC inrush current (max.)		Cold start, 40A at 115VAC	Cold start, 50A at 230VAC	Cold start, 70A at 230VAC	Cold start, 55A at 230VAC
Overload Protection	Range	>105%		110%~150%	
	Type	Hiccup mode, auto-recovery			
Over voltage protection		115%~135% rated output voltage			
Withstand voltage		I/P-O/P: 3kVAC			
Working temperature		-30~+70°C			-30~+65°C
Vibration		10~500Hz, 2G 10 minutes /1 cycle, period for 60 minutes each along X, Y, Z axes			
Safety standards		TUV EN60950-1, EN61347-1, EN61347-2-13 approved for LPH-18		LPV-20: TUV EN60950-1, UL879, UL1310 approved LPV-35: IEC 61347-1, IEC 61347-2-13, UL1310 approved; Design refer to IEC60950-1	
EMC standards		FCC part 15 class B	EN55022 class B, EN61000-3-2 class A, EN61000-3-3, EN61000-4-2,3,4,5,6,8,11		
Connection	Input	UL rated, 18AWGx2C (30cm)		UL rated, 18AWGx2C (60cm)	UL rated, 18AWGx2C (60cm)
	Output				UL rated, 16AWGx2C (60cm)
Dimension (LxWxH)(mm)		140x 30x 22		118x 35x 26	148x 40x 30

### LPL-18 Series (C.V. mode)



Model No.	Output	Tol.	R&N	Effi.
LPL-18-12	12V, 0~1.5A	±3%	120mV	80%
LPL-18-24	24V, 0~0.75A	±3%	150mV	83%
LPL-18-36	36V, 0~0.5A	±3%	200mV	84%

### LPV-20 Series (C.V. mode)



Model No.	Output	Tol.	R&N	Effi.
LPV-20-5	5V, 0~3A	±5%	80mV	77%
LPV-20-12	12V, 0~1.67A	±5%	120mV	81%
LPV-20-15	15V, 0~1.33A	±5%	120mV	83%
LPV-20-24	24V, 0~0.84A	±5%	150mV	83%

### LPH-18 Series (C.V. mode)



Model No.	Output	Tol.	R&N	Effi.
LPH-18-12	12V, 0~1.5A	±3%	120mV	77%
LPH-18-24	24V, 0~0.75A	±3%	150mV	82%
LPH-18-36	36V, 0~0.5A	±3%	200mV	83%

### LPV-35 Series (C.V. mode)





Model No.	Output	Tol.	R&N	Effi.
LPV-35-5	5V, 0~5A (peak 6A)	±6%	80mV	77%
LPV-35-12	12V, 0~3A	±5%	120mV	84%
LPV-35-15	15V, 0~2.4A	±5%	120mV	84%
LPV-35-24	24V, 0~1.5A	±5%	150mV	85%
LPV-35-36	36V, 0~1A	±5%	150mV	85%

# LP series

## 60~150W Single Output LED Power Supply

### Features

- LPV-60/100: 90~264VAC input  
LPV-150: 180~305VAC input only
- Fully encapsulated with IP67 level
- Protections: Short circuit / Overload / Over voltage / Over temperature (LPV-150 only)
- **Constant voltage mode**
- Class 2 power unit / Pass LPS (LPV-60 only)
- Isolation class II, no F.G.
- Withstand 300VAC surge input for 5 seconds (LPV-60/100)
- Cooling by free air convection
- 100% full load burn-in test
- Low cost, high reliability
- Suitable for LED-based decorative/architectural lighting, LED stage and theater lighting, and LED electronic displays
- 2 years warranty

	LPV-60	LPV-100	LPV-150	
<b>INPUT</b>				
LPV-60/100			LPV-150	
<b>OUTPUT</b>				
LPV-60/100			LPV-150	
AC input voltage range	90~264VAC; 127~370VDC		180~305VAC; 254~431VDC	
AC inrush current (max.)	Cold start, 60A at 230VAC	Cold start, 75A at 230VAC	Cold start, 60A at 230VAC	
Overload protection	110%~150% hiccup mode, auto-recovery			
Over voltage protection	115%~135% rated output voltage			
Withstand voltage	I/P-O/P: 3kVAC			
Working temperature	-30~+70°C	-25~+70°C	-25~+65°C	
Vibration	10~500Hz, 2G 10 minutes /1 cycle, period for 60 minutes each along X, Y, Z axes			
Safety standards	UL879 (except for LPV-60-5), UL1310 (except for LPV-60-5) approved	UL879, UL8750 approved; Design refer to IEC60950-1		
EMC standards	EN55022 class B, EN61000-3-2 class A, EN61000-3-3, EN61000-4-2,3,4,5,6,8,11			
Connection	Input	UL rated, 18AWGx2C (60cm)	UL rated, 18AWGx2C (30cm)	UL rated, SJTW 18AWGx2C (30cm)
	Output	UL rated, 16AWGx2C (60cm)	UL rated, 14AWGx2C (30cm)	UL rated, SJTW 14AWGx2C (30cm)
Dimension (LxWxH)(mm)	162.5x 42.5x 32	190x 52x 37	191x 63x 37.5	

### LPV-60 Series (C.V. mode)



Model No.	Output	Tol.	R&N	Effi.
LPV-60-5	5V, 0~8A	±8%	80mV	76%
LPV-60-12	12V, 0~5A	±5%	120mV	83%
LPV-60-15	15V, 0~4A	±5%	120mV	83%
LPV-60-24	24V, 0~2.5A	±5%	150mV	86%
LPV-60-36	36V, 0~1.67A	±5%	150mV	86%
LPV-60-48	48V, 0~1.25A	±5%	150mV	86%

### LPV-100 Series (C.V. mode)



Model No.	Output	Tol.	R&N	Effi.
LPV-100-5	5V, 0~12A	±8%	80mV	80%
LPV-100-12	12V, 0~8.5A	±5%	120mV	85%
LPV-100-15	15V, 0~6.7A	±5%	120mV	87%

Model No.	Output	Tol.	R&N	Effi.
LPV-100-24	24V, 0~4.2A	±5%	150mV	88%
LPV-100-36	36V, 0~2.8A	±5%	150mV	88%
LPV-100-48	48V, 0~2.1A	±5%	150mV	89%

### LPV-150 Series (C.V. mode)



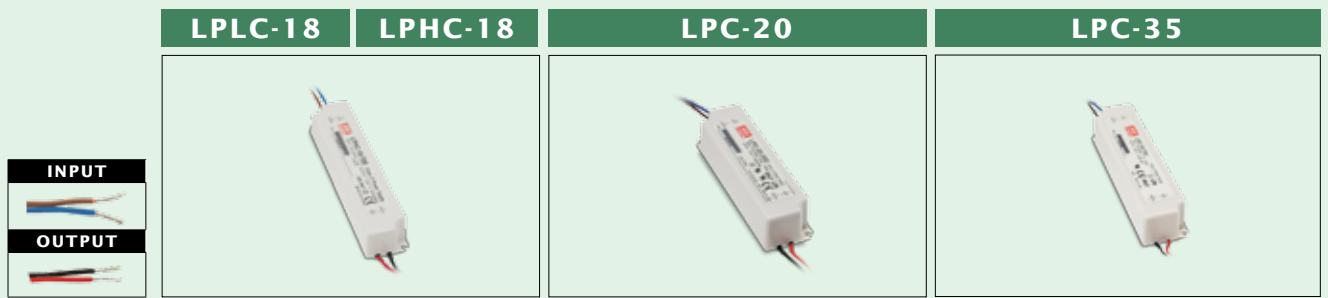
Model No.	Output	Tol.	R&N	Effi.
LPV-150-12	12V, 0~10A	±5%	200mV	87%
LPV-150-15	15V, 0~10A	±5%	200mV	88%
LPV-150-24	24V, 0~6.3A	±5%	200mV	89%
LPV-150-36	36V, 0~4.2A	±5%	200mV	89%
LPV-150-48	48V, 0~3.2A	±5%	200mV	90%

# LP series

## 18~35W Single Output LED Power Supply

### ► Features

- LPLC-18: 90~132VAC input only  
LPHC-18: 180~264VAC input only  
LPC-20/35: 90~264VAC input
- Fully encapsulated with IP67 level
- Protections: Short circuit / Over voltage /  
Over temperature (except for LPC-20/35)
- **Constant current mode**
- Withstand 300VAC surge input for 5 seconds  
(only for LPC-20/35)
- Class 2 power unit / Pass LPS
- Isolation class II, no F.G.
- Cooling by free air convection
- 100% full load burn-in test
- Low cost, high reliability
- Suitable for LED-based decorative / architectural lighting,  
LED stage and theater lighting, and LED electronic displays
- 2 years warranty



	LPLC-18	LPHC-18	LPC-20	LPC-35
AC input voltage range	90~132VAC	180~264VAC	90~264VAC	
AC inrush current (max.)	Cold start, 40A at 115VAC	Cold start, 50A at 230VAC	Cold start, 70A at 230VAC	Cold start, 55A at 230VAC
Over voltage protection	105%~135% rated output voltage			
Withstand voltage	I/P-O/P: 3kVAC			
Working temperature	-30~+70°C			
Vibration	10~500Hz, 2G 10 minutes /1 cycle, period for 60 minutes each along X, Y, Z axes			
Safety standards	Design refer to UL1310, EN60950-1		LPC-20: UL1310, UL879, TUV EN60950-1 approved LPC-35: UL1310 approved	
EMC standards	FCC part 15 class A (LPLC-18), EN55022 class A, EN61000-3-2 class A, EN61000-3-3, EN61000-4-2,3,4,5,6,8,11		EN55022 class B, EN61000-3-2 class A, EN61000-3-3, EN61000-4-2,3,4,5,6,8,11	
Connection	Input	UL rated, 18AWGx2C (30cm)	UL rated, 18AWGx2C (60cm)	UL rated, 18AWGx2C (60cm)
	Output			UL rated, 16AWGx2C (60cm)
Dimension (LxWxH)(mm)	140x 30x 22		118x 35x 26	148x 40x 30

### LPLC-18 Series (C.C. mode)



Model No.	Output	Io Tol.	R&N	Effi.
LPLC-18-350	6~48V, 350mA	±8%	300mV	82%
LPLC-18-700	6~25V, 700mA	±8%	250mV	80%

### LPC-20 Series (C.C. mode)



Model No.	Output	Io Tol.	R&N	Effi.
LPC-20-350	9~48V, 350mA	±5%	200mV	83%
LPC-20-700	9~30V, 700mA	±5%	200mV	83%

### LPHC-18 Series (C.C. mode)



Model No.	Output	Io Tol.	R&N	Effi.
LPHC-18-350	6~48V, 350mA	±8%	300mV	80%
LPHC-18-700	6~25V, 700mA	±8%	250mV	80%

### LPC-35 Series (C.C. mode)



Model No.	Output	Io Tol.	R&N	Effi.
LPC-35-700	9~48V, 700mA	±5%	200mV	85%
LPC-35-1050	9~30V, 1050mA	±5%	200mV	85%
LPC-35-1400	9~24V, 1400mA	±5%	200mV	85%

# LP series

## 60~150W Single Output LED Power Supply

### ► Features

- LPC-60/100: 90~264VAC input  
LPC-150: 180~305VAC input only
- High efficiency up to 90%
- Fully encapsulated with IP67 level
- Protections: Short circuit / Over voltage / Over temperature (LPC-150 only)
- **Constant current mode**
- Isolation class II, no F.G.
- Cooling by free air convection
- 100% full load burn-in test
- Low cost, high reliability
- Suitable for LED-based decorative / architectural lighting, LED stage and theater lighting, and LED electronic displays
- 2 years warranty

		LPC-60	LPC-100	LPC-150												
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60W / 100W	150W															
OUTPUT																
60W / 100W	150W															
AC input voltage range	90~264VAC; 127~370VDC		180~305VAC; 254~431VDC													
AC inrush current (max.)	Cold start, 60A at 230VAC	Cold start, 65A at 230VAC	Cold start, 40A at 230VAC													
Over voltage protection	105%~135%		110%~135%													
Withstand voltage	I/P-O/P: 3kVAC															
Working temperature	-30~+70°C		-25~+50°C	-40~+70°C												
Vibration	10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes															
Safety standards	UL1310 approved	Design refer to IEC60950-1	EN60950-1(LVD) approved													
EMC standards	EN55022 class B, EN61000-3-2 class A, EN61000-3-3, EN61000-4-2,3,4,5,6,8,11															
Connection	Input	UL rated, 18AWG x2C (60cm)	UL rated, 18AWG x2C (30cm)	UL rated, SJTW 18AWGx2C(30cm)												
	Output	UL rated, 16AWG x2C (60cm)	UL rated, 18AWG x2C (30cm)	UL rated, SJTW 18AWG x2C(30cm)												
Dimension (LxWxH)(mm)	162.5x 42.5x 32		190x 52x 37	191x 63x 37.5												

### LPC-60 Series (C.C. mode) (for 1050mA & 1400mA) (for 1750mA)

Model No.	Output	Io Tol.	R&N	Effi.
LPC-60-1050	9~48V, 1050mA	±5%	200mV	87%
LPC-60-1400	9~42V, 1400mA	±5%	200mV	85%
LPC-60-1750	9~34V, 1750mA	±5%	200mV	87%

### LPC-100 Series (C.C. mode)

Model No.	Output	Io Tol.	R&N	Effi.
LPC-100-350	143~286V, 350mA	±5%	1.5V	90%
LPC-100-500	100~200V, 500mA	±5%	1.5V	90%
LPC-100-700	72~143V, 700mA	±5%	1.0V	90%
LPC-100-1050	48~96V, 1050mA	±5%	1.0V	90%
LPC-100-1400	36~72V, 1400mA	±5%	1.0V	89.5%
LPC-100-1750	29~58V, 1750mA	±5%	1.0V	89.5%
LPC-100-2100	24~48V, 2100mA	±5%	1.0V	89%

### LPC-150 Series (C.C. mode)

Model No.	Output	Io Tol.	R&N	Effi.
LPC-150-350	215~430V, 350mA	±5%	2.0V	90%
LPC-150-500	150~300V, 500mA	±5%	1.5V	90%
LPC-150-700	107~215V, 700mA	±5%	1.0V	90%
LPC-150-1050	74~148V, 1050mA	±5%	1.0V	90%
LPC-150-1400	54~108V, 1400mA	±5%	1.0V	90%
LPC-150-1750	43~86V, 1750mA	±5%	1.0V	90%
LPC-150-2100	36~72V, 2100mA	±5%	1.0V	90%
LPC-150-2450	31~62V, 2450mA	±5%	1.0V	90%
LPC-150-2800	27~54V, 2800mA	±5%	1.0V	90%
LPC-150-3150	24~48V, 3150mA	±5%	1.0V	90%



# ELN series

## 30~60W Single Output LED Power Supply

### Features

- Universal AC input / Full range
- Fully isolated plastic case with IP64 level
- Built-in constant current limiting circuit with adjustable OCP level
- Protections: Short circuit / Over current / Over voltage
- Optional dimming function: 1.1~10VDC(D type) or PWM (P type) controlled
- Class 2 power unit / Pass LPS
- Isolation class II, no F.G.
- Cooling by free air convection
- Suitable for economical LED indoor lighting and LED electronic displays
- 2 years warranty

ELN-30		ELN-60	
<b>INPUT</b>			
<b>OUTPUT (standard)</b>			
<b>OUTPUT (Dimming Function)</b>			

AC input voltage range	90~264VAC ; 127~370VDC	
AC inrush current (max.)	Cold start, 55A at 230VAC	Cold start, 60A at 230VAC
DC adjustment range	±10% rated output voltage	
Current adjustment range	75%~103%	
Over current protection	95%~110% constant current limiting, auto-recovery	
Over voltage protection	Range	110%~150% rated output voltage
	Type	Shut down o/p voltage, re-power on to recover
Withstand voltage	I/P-O/P: 3kVAC	
Working temperature	-20~+60°C (refer to output derating curve)	
Vibration	10~500Hz, 2G 10 minutes /1 cycle, period for 60 minutes each along X, Y, Z axes	
Safety standards	UL1310 approved; Design refer to TUV EN60950-1	
EMC standards	EN55022 class B, EN61000-3-2 class A, EN61000-3-3, EN61000-4-2,3,4,5,6,8,11	
Connection	Input	UL rated, SVT 18AWGx2C (32cm)
	Output	Without dimming: UL rated, SVT 18AWGx2C (32cm) With dimming(optional): UL2464 18AWGx4C (32cm)
Dimension (LxWxH)(mm)	145x 47x 30	181x 61.5x 35
Packing	0.26kg ; 60pcs / 16.6kg	0.4kg ; 24pcs / 11.0kg

### ELN-30 Series



Model No.	Output	Tol.	R&N	Effi.
ELN-30-5	5V, 0~5.0A	±5%	80mV	75%
ELN-30-9	9V, 0~3.4A	±5%	100mV	80%
ELN-30-12	12V, 0~2.5A	±5%	120mV	82%
ELN-30-15	15V, 0~2.0A	±5%	120mV	82%
ELN-30-24	24V, 0~1.25A	±5%	150mV	85%
ELN-30-27	27V, 0~1.12A	±5%	150mV	85%
ELN-30-48	48V, 0~0.63A	±5%	250mV	87%

### ELN-60 Series



Model No.	Output	Tol.	R&N	Effi.
ELN-60-9	9V, 0~5.0A	±5%	120mV	82%
ELN-60-12	12V, 0~5.0A	±5%	120mV	85%
ELN-60-15	15V, 0~4.0A	±5%	150mV	86%
ELN-60-24	24V, 0~2.5A	±5%	150mV	87%
ELN-60-27	27V, 0~2.3A	±5%	200mV	87%
ELN-60-48	48V, 0~1.3A	±5%	250mV	88%

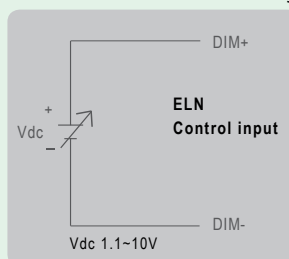
### Dimming Control (optional)

Through the dimming function, output current of ELN series can be adjusted to reduce the energy consumption or adjust the brightness of LEDs connecting to it. Two kinds of control signal are accepted: 1.1~10VDC (D-Type option) or PWM signal (P-Type option).

When there is no signal sending to the control wires (open circuit between the two control wires), the power supply will operate as 0V (D-Type) or 0% duty (P-Type) of input signal and the output current will be zero.

#### D Type :

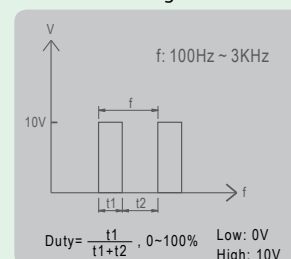
1.1~10Vdc external control signal



Order No.: ELN-30-5D

#### P Type :

PWM control signal



Order No.: ELN-30-5P

# GSC series

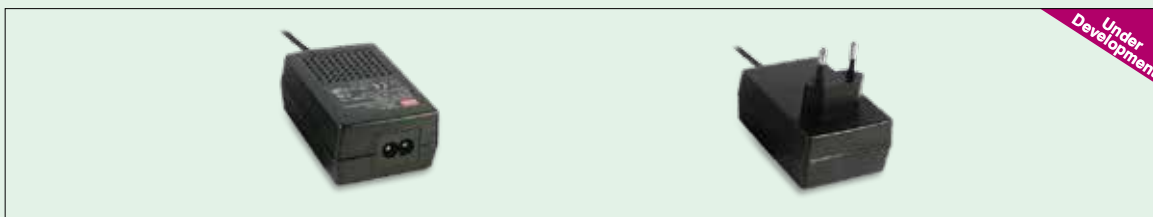
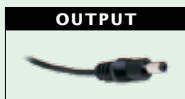
18~40W External Power with PFC

## ► Features

- Universal AC input (up to 277VAC) / Full range
- Built-in active PFC function
- Protection: Short circuit
- Fully isolated plastic case
- **Constant current mode**
- **No load power consumption <0.15W**
- IP30 design
- Isolation class II, no F.G.
- Cooling by free air convection
- 2 pole EURO plug or IEC320-C8
- Low cost, high reliability
- Suitable for indoor LED lighting applications
- 3 years warranty

### GSC18B/25B/40B

### GSC18E/25E/40E



AC input voltage range	90~277VAC	
AC inrush current (max.)	Cold start, 15A at 230VAC	
Setup time	500ms at full load and 230VAC	
Short circuit protection	Hiccup mode, auto-recovery	
Withstand voltage	I/P-O/P: 3.75kVAC	
Working temperature	-30~+50°C ( refer to output derating curve)	
Safety standards	Design refer to ENEC EN61347-1, EN61347-2-13, EN62384	
EMC standards	EN55015, EN61000-3-2 class C, EN61000-3-3, EN61000-4-2,3,4,5,6,8,11, EN61547	
Connection	Input	B-Type IEC320-C8
		E-Type European 2P
	Output	Plug 2.1φ x 5.5φ x 11mm, center+
		Cable UL rated, UL1185 18AWG (180cm)
Dimension (LxWxH)(mm)	79x54x33	

## GSC18 Series

ENEC/CB/CE pending

Model No.	Output	Io Tol.	R&N	Effi.
GSC18□-350	26~52V, 350mA	±8%	4.6V	88%
GSC18□-500	18~36V, 500mA	±8%	3.0V	87%
GSC18□-700	13~26V, 700mA	±8%	2.5V	86%
GSC18□-1050	8~17V, 1050mA	±8%	1.5V	85%
GSC18□-1400	6~13V, 1400mA	±8%	1.0V	84%

□ = B / E ; B: IEC320-C8, E: European 2P

## GSC25 Series

ENEC/CB/CE pending

Model No.	Output	Io Tol.	R&N	Effi.
GSC25□-350	36~72V, 350mA	±8%	7.2V	88%
GSC25□-500	26~52V, 500mA	±8%	5.0V	87%
GSC25□-700	18~36V, 700mA	±8%	3.6V	86%

Model No.	Output	Io Tol.	R&N	Effi.
GSC25□-1050	12~24V, 1050mA	±8%	2.4V	85%
GSC25□-1400	9~18V, 1400mA	±8%	1.8V	84%

□ = B / E ; B: IEC320-C8, E: European 2P

## GSC40 Series

ENEC/CB/CE pending

Model No.	Output	Io Tol.	R&N	Effi.
GSC40□-350	50~100V, 350mA	±8%	11.6V	88%
GSC40□-500	40~80V, 500mA	±8%	8.0V	87%
GSC40□-700	29~58V, 700mA	±8%	5.8V	86%
GSC40□-1050	19~38V, 1050mA	±8%	3.8V	85%
GSC40□-1400	14~28V, 1400mA	±8%	2.9V	84%

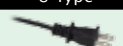



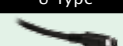
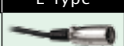
□ = B / E ; B: IEC320-C8, E: European 2P

# OWA series

60~120W External Power

## Features

- Universal AC input / Full range
- Built-in active PFC function (OWA-90/120)
- High efficiency up to 91%
- No load power consumption <0.15W
- NRCAN (Level V) / EISA 2007 (Level VI) for U-Type
- ErP step 2 (Level V) for E-Type
- Protections: Short circuit / Over current / Over voltage / Over temp.
- Cooling by free air convection
- Fully isolated plastic case
- Fully encapsulated with IP67 level for main body
- Isolation class II, no F.G.
- Class 2 power unit (OWA-60 & OWA-90-20~54)
- Suitable for dry and damp location
- Suitable for LED lighting applications
- Optional IP44 AC plug for E-Type
- 5 years warranty

INPUT	
OWA-60/90/120	
U-Type	E-Type
	
OUTPUT	
OWA-60	
U-Type	E-Type
	
OWA-90/120	
U-Type	E-Type
	



AC input voltage range	90~264VAC ; 127~370VDC				
AC inrush current (max.)	Cold start, 55A at 230VAC	Cold start, 60A at 230VAC			
Over current protection	95%~108% constant current limiting, auto-recovery				
Over voltage protection	110%~140% rated output voltage				
Over temp. protection	Shut down output voltage, re-power on to recover				
Setup, rise, hold up time	500ms, 80ms, 16ms at full load and 230VAC				
Withstand voltage	I/P-O/P: 3.75KVAC				
Working temperature	-40~+70°C (refer to output derating curve)				
Safety standards	U-Type: UL8750 listed approved (OWA-60/120 pending) E-Type: EN61558-1, EN61558-2-16 listed; EN60335-1 listed (except for OWA-90E-42~54) approved (OWA-60/120 pending)				
EMC standards	U-Type: FCC Part 15; E-Type: EN55022 class B, EN55014-1, EN61000-3-2,-3 (OWA-60/120 pending)				
Connection	Input	Plug	U-Type: NEMA 1-15P plug; E-Type: Schuko EU plug		
		Cable	U-Type: UL rated, SVT 18AWGx2C (150cm); E-Type: H05RN-F 1.0mm <sup>2</sup> x2C (150cm)		
	Output	Plug	U-Type: Power DIN 4P with lock type; E-Type: XLR 4P, male type		
		Cable	U-Type: UL1185 16AWG x 2C (30cm); E-Type: H05RN-F 1.0mm <sup>2</sup> x 2C (30cm)	U-Type: UL2464 18AWGx4C (30cm); E-Type: H05RN-F 1.0mm <sup>2</sup> x2C (30cm)	U-Type: UL2464 18AWGx4C (30cm); E-Type: H07RN-F 1.5mm <sup>2</sup> x2C (30cm)
Dimension (LxWxH)(mm)	130x 53x 35		171x 63x 37.5	191x 63x 37.5	

## OWA-60 Series

UL/CUL/TUV/FCC/CE pending

Model No.	Output	Tol.	R&N	Effi.
OWA-60□-12	12V, 0~5A	±4.0%	150mV	89%
OWA-60□-15	15V, 0~4A	±4.0%	150mV	90%
OWA-60□-20	20V, 0~3A	±4.0%	150mV	90%
OWA-60□-24	24V, 0~2.5A	±3.0%	150mV	90%
OWA-60□-30	30V, 0~2A	±3.0%	200mV	90%
OWA-60□-36	36V, 0~1.67A	±2.0%	200mV	91%
OWA-60□-42	42V, 0~1.43A	±1.0%	250mV	91%
OWA-60□-48	48V, 0~1.25A	±1.0%	250mV	91%
OWA-60□-54	54V, 0~1.12A	±1.0%	350mV	91%

□ = U / E; U: American 2P, E: European 2P

## OWA-90 Series

UL/CUL/TUV/FCC/CE pending  
(U-Type, 42~54V) (U-Type, 12~36V) (E-Type) (U-Type) (E-Type)

Model No.	Output	Tol.	R&N	Effi.
OWA-90□-12	12V, 0~7.5A	±4.0%	150mV	89%
OWA-90□-15	15V, 0~6A	±4.0%	150mV	90%
OWA-90□-20	20V, 0~4.5A	±4.0%	150mV	90%
OWA-90□-24	24V, 0~3.75A	±3.0%	150mV	90%

Model No.	Output	Tol.	R&N	Effi.
OWA-90□-30	30V, 0~3A	±3.0%	200mV	90%
OWA-90□-36	36V, 0~2.5A	±2.0%	200mV	91%
OWA-90□-42	42V, 0~2.15A	±1.0%	250mV	91%
OWA-90□-48	48V, 0~1.88A	±1.0%	250mV	91%
OWA-90□-54	54V, 0~1.67A	±1.0%	350mV	91%

□ = U / E; U: American 2P, E: European 2P

## OWA-120 Series

UL/CUL/TUV/FCC/CE pending

Model No.	Output	Tol.	R&N	Effi.
OWA-120□-12	12V, 0~10A	±4.0%	150mV	89%
OWA-120□-15	15V, 0~8A	±4.0%	150mV	89%
OWA-120□-20	20V, 0~6A	±4.0%	150mV	89%
OWA-120□-24	24V, 0~5A	±4.0%	150mV	90%
OWA-120□-30	30V, 0~4A	±3.0%	200mV	90%
OWA-120□-36	36V, 0~3.4A	±2.0%	200mV	90%
OWA-120□-42	42V, 0~2.9A	±1.0%	200mV	90%
OWA-120□-48	48V, 0~2.5A	±1.0%	250mV	91%
OWA-120□-54	54V, 0~2.3A	±1.0%	350mV	91%

□ = U / E; U: American 2P, E: European 2P

# PCD series

16~60W Constant Current with AC Dimmable

## Features

- AC phase-cut dimming, work with leading edge and trailing edge TRIAC dimmers
- PCD-16/25: 115VAC or 230VAC input
- PCD-40/60: 230VAC input only
- Built-in active PFC function
- Fully isolated plastic case
- Constant current mode
- IP30 design
- Class 2 power unit / Pass LPS (PCD-16/25)
- Isolation class II, no F.G.
- Protections: Short circuit / Over temperature
- Cooling by free air convection
- 3 years warranty

		PCD-16/25	PCD-40/60
INPUT (A type)			
	INPUT (B type)		
OUTPUT			
AC input voltage range		115VAC (90~135VAC) or 230VAC (180~295VAC)	230VAC (180~295VAC)
AC inrush current (max.)		Cold start, 10A at 230VAC	PCD-40: Cold start, 11A at 230VAC PCD-60: Cold start, 13A at 230VAC
Setup time		500ms at full load and 230VAC	
Withstand voltage		I/P - O/P: 3.75kVAC	
Working temperature		-30~+60°C (refer to output derating curve)	PCD-40: -30~+50°C ; PCD-60: -30~+45°C
Safety standards		UL8750 (PCD-16/25 only), ENEC EN61347-1, EN61347-2-13, EN62384 (B-Type only) approved	
EMC standards		A-Type: FCC part 18 non-consumer equipment B-Type: EN55015, EN61000-3-2 class C, EN61000-3-3, EN61000-4-2,3,4,5,6,8,11, EN61547	
Connection	Input	PCD-16/25 A-Type: UL1430 18AWGx2C (7.5cm); PCD-16/25 B-Type: NISPT-1 18AWGx2C (7.5cm); PCD-40/60: H03VVH2-F 0.75mm <sup>2</sup> x2C (7.5cm)	
	Output	UL1430 18AWGx2C (15cm)	
Dimension (LxWxH)(mm)		84x 57x 29.5	128x 60x 31.5

**PCD-16 Series**

Model No.	Output	Io Tol.	R&N	Effi.
PCD-16-350 □	24~48V, 350mA	±5%	4.6V	82.0%
PCD-16-700 □	16~24V, 700mA	±5%	2.7V	81.0%
PCD-16-1050 □	12~16V, 1050mA	±5%	2.2V	80.5%
PCD-16-1400 □	8~12V, 1400mA	±5%	2.0V	80.0%

□ = A or B-Type ; A-Type: 90~135VAC, B-Type: 180~295VAC

**PCD-25 Series**

Model No.	Output	Io Tol.	R&N	Effi.
PCD-25-350 □	40~58V, 350mA	±5%	4.6V	82.0%
PCD-25-700 □	24~36V, 700mA	±5%	2.7V	81.0%
PCD-25-1050 □	16~24V, 1050mA	±5%	2.2V	80.5%
PCD-25-1400 □	12~18V, 1400mA	±5%	2.0V	80.0%

□ = A or B-Type ; A-Type: 90~135VAC, B-Type: 180~295VAC

**PCD-40 Series**

Model No.	Output	Io Tol.	R&N	Effi.
PCD-40-350B	70~108V, 350mA	±5%	9.5V	87%
PCD-40-500B	45~80V, 500mA	±5%	5.0V	87%
PCD-40-700B	34~57V, 700mA	±5%	3.1V	86%
PCD-40-1050B	22~38V, 1050mA	±5%	2.6V	86%
PCD-40-1400B	17~29V, 1400mA	±5%	2.5V	85%
PCD-40-1750B	13~23V, 1750mA	±5%	2.4V	85%

**PCD-60 Series**

Model No.	Output	Io Tol.	R&N	Effi.
PCD-60-500B	70~108V, 500mA	±5%	10.2V	87%
PCD-60-700B	50~86V, 700mA	±5%	5.6V	86%
PCD-60-1050B	34~57V, 1050mA	±5%	3.8V	86%
PCD-60-1400B	25~43V, 1400mA	±5%	3.4V	85%
PCD-60-1750B	20~34V, 1750mA	±5%	3.3V	85%
PCD-60-2000B	18~30V, 2000mA	±5%	2.4V	85%
PCD-60-2400B	15~25V, 2400mA	±5%	2.4V	84%

## Dimmer Compatibility Chart

Manufacturer	Dimmer Model	
LUTRON	SKYLARK SF-12P-277	(277VAC / 60Hz)
LUTRON	DVF-103P-277	(277VAC / 60Hz)
LUTRON	SKYLARK SF-10P	(120VAC / 60Hz)
LUTRON	SKYLARK S-600P	(120VAC / 60Hz)
LUTRON	SKYLARK DVF-103P	(120VAC / 60Hz)
LEVITON	ILLUMATECH TM Cat.No.IP106	(120VAC / 60Hz)
LEVITON	SURESLIDE TM Cat.No.6633-P	(120VAC / 60Hz)
LEVITON	SURESLIDE TM Cat. NO.6615-P	(120VAC / 60Hz)
JUNG	Licht-Management 225 T DE	(230VAC / 50Hz)
JUNG	Licht-Management 225 NV DE	(230VAC / 50Hz)
BERKER	Tronic-Drehdimmer 286710	(230-240VAC / 50Hz)
BE LICHTREGLER	T39.01	(230VAC / 50Hz)
BE LICHTREGLER	T46	(230VAC / 50Hz)
CLIPSAL	32E450UDM	(220-240VAC / 50Hz)
CLIPSAL	NO 32E450TM	(220-240VAC / 50Hz)

- ▶ Conduction angle: 30 degrees (min.) / 180 degrees (max.)
- ▶ For PCD-16/25/40/60 only

# PLD series

16~60W Constant Current with PFC

## Features

- PLD-16: 115VAC or 230VAC input  
PLD-25: 90~295VAC input  
PLD-40/60: 230VAC input only
- Built-in active PFC function
- Fully isolated plastic case
- **Constant current mode**
- IP30 design
- Class 2 power unit / Pass LPS (PLD-16/25)
- Isolation class II, no F.G.
- Protections: Short circuit / Over temperature
- Suitable for indoor LED lighting applications
- Cooling by free air convection
- 3 years warranty

	PLD-16	PLD-25	PLD-40	PLD-60						
<b>INPUT</b>	<table border="1"> <tr> <th>A-Type</th> <th>B-Type</th> <th>PLD-25</th> </tr> <tr> <td></td> <td></td> <td></td> </tr> </table>				A-Type	B-Type	PLD-25			
A-Type	B-Type	PLD-25								
<b>OUTPUT</b>										
AC input voltage range	115VAC (90~135VAC) or 230VAC (180~295VAC)	90~295VAC	230VAC (180~295VAC)							
AC inrush current (max.)	Cold start, 20A at 230VAC	Cold start, 25A at 230VAC								
Setup time	500ms at full load and 230VAC									
Withstand voltage	I/P - O/P: 3.75kVAC									
Short circuit protection	Hiccup mode, auto-recovery									
Over temp. protection	Shut down o/p voltage, re-power on to recover		Shut down o/p voltage, auto-recovery							
Working temperature	-30~+50°C	-30~+60°C	-30~+50°C	-30~+45°C						
Safety standards	UL8750 (PLD-16/25 only), ENEC EN61347-1, EN61347-2-13, EN62384 (except for A-Type) approved									
EMC standards	A-Type & PLD-25: FCC part 18 non-consumer equipment B-Type & PLD-25: EN55015, EN61000-3-2 class C, EN61000-3-3, EN61000-4,2,3,4,5,6,8,11, EN61547									
Connection	Input	PLD-16 A-Type: UL1430 18AWGx2C (7.5cm) PLD-16 B-Type & PLD-25: NISPT-1 18AWGx2C (7.5cm) PLD-40/60: H03VVH2-F 0.75mm <sup>2</sup> x2C (7.5cm)								
	Output	UL1430 18AWGx2C (15cm)								
Dimension (LxWxH)(mm)	84x 57x 29.5		128x 60x 31.5							

## PLD-16 Series

Model No.	Output	Io Tol.	R&N	Effi.
PLD-16-350 □	24~48V, 350mA	±5%	4.6V	84.5%
PLD-16-700 □	16~24V, 700mA	±5%	2.7V	84.5%
PLD-16-1050 □	12~16V, 1050mA	±5%	2.2V	84.0%
PLD-16-1400 □	8~12V, 1400mA	±5%	2.0V	82.5%

□ = A or B-Type ; A-Type: 90~135VAC, B-Type: 180~295VAC

## PLD-40 Series

Model No.	Output	Io Tol.	R&N	Effi.
PLD-40-350B	70~108V, 350mA	±5%	9.5V	88%
PLD-40-500B	45~80V, 500mA	±5%	5.0V	88%
PLD-40-700B	34~57V, 700mA	±5%	3.1V	87%
PLD-40-1050B	22~38V, 1050mA	±5%	2.6V	87%
PLD-40-1400B	17~29V, 1400mA	±5%	2.5V	86%
PLD-40-1750B	13~23V, 1750mA	±5%	2.4V	86%

## PLD-25 Series

Model No.	Output	Io Tol.	R&N	Effi.
PLD-25-350	36~58V, 350mA	±5%	4.6V	85%
PLD-25-700	24~36V, 700mA	±5%	2.7V	86%
PLD-25-1050	16~24V, 1050mA	±5%	2.2V	85%
PLD-25-1400	12~18V, 1400mA	±5%	2.0V	84%

## PLD-60 Series

Model No.	Output	Io Tol.	R&N	Effi.
PLD-60-500B	70~108V, 500mA	±5%	10.2V	88%
PLD-60-700B	50~86V, 700mA	±5%	5.6V	87%
PLD-60-1050B	34~57V, 1050mA	±5%	3.8V	87%
PLD-60-1400B	25~43V, 1400mA	±5%	3.4V	86%
PLD-60-1750B	20~34V, 1750mA	±5%	3.3V	86%
PLD-60-2000B	18~30V, 2000mA	±5%	2.4V	86%
PLD-60-2400B	15~25V, 2400mA	±5%	2.4V	85%

# PLM series

12~40W Constant Current with PFC

## Features

- 110~295VAC input
- Built-in active PFC function
- Protections: Short circuit / Over temperature (PLM-40)
- Fully isolated plastic case
- **Constant current mode**
- **No load power consumption <0.5W**
- Three-step analog dimming function (PLM-40)
- IP30 design
- Isolation class II, no F.G.
- Class 2 power unit (except for PLM-25-350 & PLM-40)
- Cooling by free air convection
- Low cost, high reliability
- Suitable for indoor LED lighting applications
- 2 years warranty



	PLM-12	PLM-25	PLM-40
AC input voltage range	110~295VAC; 156~417VDC		
AC inrush current (max.)	Cold start, 15A at 230VAC		
Setup time	500ms at full load and 230VAC		
Short circuit protection	Hiccup mode, auto-recovery		
Over temperature (PLM-40)	Hiccup mode, auto-recovery		
Withstand voltage	I/P-O/P: 3.75kVAC		
Working temperature	-30~+50°C	-30~+45°C (refer to output derating curve)	
Safety standards	UL8750, ENEC EN61347-1, EN61347-2-13, EN62384 approved		
EMC standards	EN55015, EN61000-3-2 class C, EN61000-3-3, EN61000-4-2,3,4,5,6,8,11, EN61547		
Connection (Input / Output)	2+2P push terminal block		
Dimension (LxWxH)(mm)	145x 38x 22	175x 42x 24	

## PLM-12 Series



Model No.	Output	Io Tol.	R&N	Effi.
PLM-12-350	22~36V, 350mA	±5%	3.6V	85%
PLM-12-500	15~24V, 500mA	±5%	2.4V	84%
PLM-12-700	11~18V, 700mA	±5%	2.4V	83%
PLM-12-1050	7~12V, 1050mA	±5%	1.8V	81%

## PLM-25 Series



Model No.	Output	Io Tol.	R&N	Effi.
PLM-25-350	42~72V, 350mA	±5%	7.2V	87%
PLM-25-500	30~50V, 500mA	±5%	5.0V	86%
PLM-25-700	21~36V, 700mA	±5%	3.6V	86%
PLM-25-1050	14~24V, 1050mA	±5%	2.4V	85%

## PLM-40 Series



Model No.	Output	Io Tol.	R&N	Effi.
PLM-40-350	53~105V, 350mA	±5%	10V	88%
PLM-40-500	40~80V, 500mA	±5%	8.0V	88%
PLM-40-700	29~57V, 700mA	±5%	6.0V	87%
PLM-40-1050	19~38V, 1050mA	±5%	4.0V	87%
PLM-40-1400	15~29V, 1400mA	±5%	3.0V	86%
PLM-40-1750	12~23V, 1750mA	±5%	2.5V	86%

# LPF series

16~90W Single Output with PFC

## Features

- Universal AC input (up to 305VAC) / Full range
- Protections: Short circuit / Over current / Over voltage / Over temperature
- Built-in active PFC function
- Fully isolated plastic case
- Isolation class II, no F.G.
- Class 2 power unit
- Built-in 3 in 1 dimming function (1~10VDC, PWM signal or resistance) for D type
- Fully encapsulated with IP67 level [optional for LPF-16(D)]
- Cooling by free air convection
- Suitable for LED lighting and moving sign applications
- Suitable for dry, damp, and wet location
- 5 years warranty



	LPF-16(D)/25(D)	LPF-40(D)/60(D)	LPF-90(D)
AC input voltage range	90~305VAC ; 127~431VDC		
AC inrush current (max.)	LPF-16(D): Cold start, 45A LPF-25(D): Cold start, 50A	LPF-40(D): Cold start, 50A LPF-60(D): Cold start, 55A	Cold start, 55A at 230VAC
Over current protection	95%~108% constant current, auto-recovery		
Over voltage protection	110%~150% rated output voltage		
Setup, rise, hold up time	500ms, 80ms, 16ms at full load and 230VAC		500ms, 200ms, 16ms at full load and 230VAC
Withstand voltage	I/P - O/P: 3.75kVAC		
Working temperature	-35~+70°C	-40~+70°C (refer to output derating curve)	
Safety standards	UL8750, ENEC EN61347-1, EN61347-2-13, EN62384, PSE J61347-1, J61347-2-13 approved; TUV EN61347-1, EN61347-2-13 approved for LPF-40(D)/60(D)/90(D)		
EMC standards	EN55015, EN61547, EN61000-3-2 class C, EN61000-3-3, EN61000-4-2,3,4,5,6,8,11		
Connection	Input	UL rated, SJTW 18AWGx2C (30cm)	
	Output	LPF-16/25: UL rated, SVT 18AWGx2C (30cm) LPF-16D/25D: UL rated, SJTW 18AWGx4C (30cm)	LPF-40/60: UL rated, SVT 18AWGx2C (30cm) LPF-40D/60D: UL2464 18AWGx2C(30cm)+22AWGx2C (30cm)
Dimension (LxWxH)(mm)	148x 40x 32	162.5x 43x 32	161x 61x 36

## LPF-16 Series



Model No.	Output	Tol.	R&N	Effi.
LPF-16-12	12V, 0~1.34A	±4.0%	150mV	83.0%
LPF-16-15	15V, 0~1.07A	±4.0%	150mV	83.0%
LPF-16-20	20V, 0~0.80A	±4.0%	150mV	84.5%
LPF-16-24	24V, 0~0.67A	±4.0%	150mV	84.5%
LPF-16-30	30V, 0~0.54A	±4.0%	200mV	84.5%
LPF-16-36	36V, 0~0.45A	±4.0%	250mV	85.0%
LPF-16-42	42V, 0~0.39A	±4.0%	250mV	85.0%
LPF-16-48	48V, 0~0.34A	±4.0%	250mV	85.0%
LPF-16-54	54V, 0~0.30A	±4.0%	350mV	84.5%

## LPF-25 Series



Model No.	Output	Tol.	R&N	Effi.
LPF-25-12	12V, 0~2.10A	±4.0%	150mV	84.0%
LPF-25-15	15V, 0~1.67A	±4.0%	150mV	84.0%
LPF-25-20	20V, 0~1.25A	±4.0%	150mV	85.0%
LPF-25-24	24V, 0~1.05A	±4.0%	150mV	85.5%
LPF-25-30	30V, 0~0.84A	±4.0%	200mV	85.5%
LPF-25-36	36V, 0~0.70A	±4.0%	250mV	85.5%
LPF-25-42	42V, 0~0.60A	±4.0%	250mV	85.5%
LPF-25-48	48V, 0~0.53A	±4.0%	250mV	86.0%
LPF-25-54	54V, 0~0.47A	±4.0%	350mV	86.0%

## LPF-40 Series



Model No.	Output	Tol.	R&N	Effi.
LPF-40-12	12V, 0~3.34A	±4.0%	150mV	84.0%
LPF-40-15	15V, 0~2.67A	±4.0%	150mV	85.0%
LPF-40-20	20V, 0~2.00A	±4.0%	150mV	86.0%

Model No.	Output	Tol.	R&N	Effi.
LPF-40-24	24V, 0~1.67A	±4.0%	150mV	87.0%
LPF-40-30	30V, 0~1.34A	±4.0%	200mV	88.0%
LPF-40-36	36V, 0~1.12A	±4.0%	250mV	88.0%
LPF-40-42	42V, 0~0.96A	±4.0%	250mV	88.5%
LPF-40-48	48V, 0~0.84A	±4.0%	250mV	89.0%
LPF-40-54	54V, 0~0.76A	±4.0%	350mV	89.0%

## LPF-60 Series



Model No.	Output	Tol.	R&N	Effi.
LPF-60-12	12V, 0~5.00A	±4.0%	150mV	86%
LPF-60-15	15V, 0~4.00A	±4.0%	150mV	87%
LPF-60-20	20V, 0~3.00A	±4.0%	150mV	88%
LPF-60-24	24V, 0~2.50A	±4.0%	150mV	89%
LPF-60-30	30V, 0~2.00A	±4.0%	200mV	90%
LPF-60-36	36V, 0~1.67A	±4.0%	250mV	90%
LPF-60-42	42V, 0~1.43A	±4.0%	250mV	90%
LPF-60-48	48V, 0~1.25A	±4.0%	250mV	90%
LPF-60-54	54V, 0~1.12A	±4.0%	350mV	90%

## LPF-90 Series



Model No.	Output	Tol.	R&N	Effi.
LPF-90-15	15V, 0~5.00A	±4.0%	150mV	89.0%
LPF-90-20	20V, 0~4.50A	±4.0%	150mV	89.5%
LPF-90-24	24V, 0~3.75A	±4.0%	150mV	90.0%
LPF-90-30	30V, 0~3.00A	±4.0%	200mV	90.5%
LPF-90-36	36V, 0~2.50A	±4.0%	200mV	90.5%
LPF-90-42	42V, 0~2.15A	±4.0%	200mV	90.5%
LPF-90-48	48V, 0~1.88A	±4.0%	200mV	90.5%
LPF-90-54	54V, 0~1.67A	±4.0%	200mV	90.5%

□ = Blank, D ; Blank: without dimming function , D: with dimming function

# NPF series

40~120W Single Output with PFC

## ► Features

- Universal AC input (up to 305VAC) / Full range
- Built-in active PFC function
- High efficiency up to 91%
- No load power consumption <0.15W (<0.5W for D-Type)
- Protections:
  - Short circuit / Over current / Over voltage / Over temperature
- Cooling by free air convection
- Fully isolated plastic case with IP67 level
- Class 2 power unit [except for NPF-90(D)-12/15 & NPF-120(D)]
- Isolation class II, no F.G.
- Built-in 3 in 1 dimming function (0~10VDC, PWM signal or resistance) for D type
- Suitable for dry, damp, and wet location
- 5 years warranty

		NPF-40(D)/60(D)	NPF-90(D)	NPF-120(D)
<b>INPUT</b>	<b>OUTPUT</b> (NPF-40D/60D)			
<b>OUTPUT</b> (NPF-40/60/90/120)	<b>OUTPUT</b> (NPF-90D/120D)			


AC input voltage range	90~305VAC; 127~431VDC			
AC inrush current (max.)	Cold start, 50A at 230VAC	Cold start, 60A at 230VAC		
Over current protection	95%~108% constant current limiting, auto-recovery			
Over voltage protection	110%~140% rated output voltage			
Over temp. protection	Shut down output voltage, re-power on to recover			
Setup, rise, hold up time	500ms, 80ms, 16ms at full load and 230VAC			
Withstand voltage	I/P-O/P: 3.75kVAC			
Working temperature	-40~+70°C (refer to output dearting curve)			
Safety standards	UL8750, ENEC EN61347-1, EN61347-2-13, EN62384 approved [NPF-40(D)/60(D)/120(D)/pending]; Design refer to EN60335-1			
EMC standards	EN55015, EN61000-3-2 class C, EN61000-3-3, EN61000-4-2,3,4,5,6,8,11, EN61547, [NPF-40(D)/60(D)/120(D)/pending]			
Connection	Input	UL rated, SJTW 18AWGx2C (30cm)		
	Output	NPF-40/60: SVT 18AWGx 2C (30cm) NPF-40D/60D: UL2464 18AWG x2C (30cm)+ 22AWG x2C (30cm)	NPF-90: SJTW 16AWGx2C (30cm) NPF-90D: SJTW 16AWGx2C (30cm)+ UL2464 18AWGx2C (30cm)	NPF-120: SJTW 14AWGx2C (30cm) NPF-120D: SJTW 14AWGx2C (30cm)+ UL2464 18AWGx2C (30cm)
Dimension (LxWxH) (mm)	150x 53x 35	171x 63x 37.5	191x 63x 37.5	

## NPF-40 Series

 UL/CUL/ENEC/CB/CE pending

Model No.	Output	Tol.	R&N	Effi.
NPF-40□-12	12V, 0~3.34A	±4%	150mV	86.0%
NPF-40□-15	15V, 0~2.67A	±4%	150mV	87.0%
NPF-40□-20	20V, 0~2A	±4%	150mV	88.0%
NPF-40□-24	24V, 0~1.67A	±3%	150mV	89.0%
NPF-40□-30	30V, 0~1.34A	±3%	200mV	90.0%
NPF-40□-36	36V, 0~1.12A	±2%	200mV	90.0%
NPF-40□-42	42V, 0~0.96A	±1%	200mV	90.0%
NPF-40□-48	48V, 0~0.84A	±1%	200mV	90.0%
NPF-40□-54	54V, 0~0.76A	±1%	350mV	90.0%

## NPF-60 Series

 UL/CUL/ENEC/CB/CE pending


Model No.	Output	Tol.	R&N	Effi.
NPF-60□-12	12V, 0~5A	±4%	150mV	86.0%
NPF-60□-15	15V, 0~4A	±4%	150mV	87.0%
NPF-60□-20	20V, 0~3A	±4%	150mV	88.0%
NPF-60□-24	24V, 0~2.5A	±3%	150mV	89.0%
NPF-60□-30	30V, 0~2A	±3%	200mV	90.0%
NPF-60□-36	36V, 0~1.67A	±2%	200mV	90.0%
NPF-60□-42	42V, 0~1.43A	±1%	200mV	90.0%
NPF-60□-48	48V, 0~1.25A	±1%	200mV	90.0%
NPF-60□-54	54V, 0~1.12A	±1%	350mV	90.0%

## NPF-90 Series

Model No.	Output	Tol.	R&N	Effi.
NPF-90□-12	12V, 0~7.5A	±4%	150mV	89.0%
NPF-90□-15	15V, 0~6A	±4%	150mV	89.5%
NPF-90□-20	20V, 0~4.5A	±4%	150mV	90.5%
NPF-90□-24	24V, 0~3.75A	±3%	150mV	91.0%
NPF-90□-30	30V, 0~3A	±3%	200mV	89.5%
NPF-90□-36	36V, 0~2.5A	±2%	200mV	90.5%
NPF-90□-42	42V, 0~2.15A	±1%	250mV	90.5%
NPF-90□-48	48V, 0~1.88A	±1%	250mV	90.5%
NPF-90□-54	54V, 0~1.67A	±1%	350mV	90.5%

## NPF-120 Series

 UL/CUL/ENEC/CB/CE pending

Model No.	Output	Tol.	R&N	Effi.
NPF-120□-12	12V, 0~10A	±4%	150mV	89.0%
NPF-120□-15	15V, 0~8A	±4%	150mV	89.0%
NPF-120□-20	20V, 0~6A	±4%	150mV	89.0%
NPF-120□-24	24V, 0~5A	±4%	150mV	90.0%
NPF-120□-30	30V, 0~4A	±3%	200mV	90.0%
NPF-120□-36	36V, 0~3.4A	±2%	200mV	90.0%
NPF-120□-42	42V, 0~2.9A	±1%	250mV	90.0%
NPF-120□-48	48V, 0~2.5A	±1%	250mV	91.0%
NPF-120□-54	54V, 0~2.3A	±1%	350mV	91.0%

□ = Blank, D ; Blank: without dimming function , D: with dimming function



# PWM series

40~120W PWM Output with PFC

## Features

- Universal AC input (up to 305VAC) / Full range
- Constant voltage PWM style output
- Built-in active PFC function
- High efficiency up to 91%
- No load power consumption <0.5W
- Protections:
  - Short circuit / Overload / Over voltage / Over temperature
- Cooling by free air convection
- Fully isolated plastic case
- Fully encapsulated with IP67 level
- Class 2 power unit (except for PWM-90-12 & PWM-120)
- Isolation class II, no F.G.
- Built-in 2 in 1 dimming function (0~10VDC or PWM signal)
- Suitable for dry, damp, and wet location
- Suitable for LED strip lighting
- 5 years warranty



AC input voltage range	90~305VAC; 127~431VDC		
AC inrush current (max.)	Cold start, 50A at 230VAC	Cold start, 60A at 230VAC	
Overload protection	108%~120% hiccup mode, auto-recovery		
Over voltage protection	113%~142% rated output voltage		
Over temp. protection	Shut down output voltage, re-power on to recover		
Setup, rise, hold up time	500ms, 80ms, 16ms at full load and 230VAC		
Withstand voltage	I/P-O/P: 3.75kVAC		
Working temperature	-40~+70°C ( refer to output dearting curve)		
Safety standards	UL8750, ENEC EN61347-1, EN61347-2-13, EN62384 approved (PWM-40/60/120 pending); Design refer to EN60335-1		
EMC standards	EN55015, EN61000-3-2 class C, EN61000-3-3, EN61000-4-2,3,4,5,6,8,11, EN61547 (PWM-40/60/120 pending)		
Connection	Input	UL rated, SJTW 18AWGx2C (30cm)	
	Output	UL2464 18AWG x2C (30cm)+ 22AWG x2C (30cm)	SJTW 16AWGx2C (30cm)+ UL2464 18AWGx2C (30cm)
Dimension (LxWxH) (mm)	150x 53x 35	171x 63x 37.5	191x 63x 37.5

## PWM-40 Series

UL/CUL/ENEC/CB/CE pending

Model No.	Output	Tol.	Effi.
PWM-40-12	12V, 0~3.34A	±4%	86.0%
PWM-40-24	24V, 0~1.67A	±3%	89.0%
PWM-40-36	36V, 0~1.12A	±2%	90.0%
PWM-40-48	48V, 0~0.84A	±1%	90.0%

## PWM-90 Series

UL/CUL/ENEC/CB/CE pending

Model No.	Output	Tol.	Effi.
PWM-90-12	12V, 0~7.5A	±4%	88.0%
PWM-90-24	24V, 0~3.75A	±3%	90.5%
PWM-90-36	36V, 0~2.5A	±2%	90.5%
PWM-90-48	48V, 0~1.88A	±1%	90.5%

## PWM-60 Series

UL/CUL/ENEC/CB/CE pending

Model No.	Output	Tol.	Effi.
PWM-60-12	12V, 0~5A	±4%	86.0%
PWM-60-24	24V, 0~2.5A	±3%	89.0%
PWM-60-36	36V, 0~1.67A	±2%	90.0%
PWM-60-48	48V, 0~1.25A	±1%	90.0%

## PWM-120 Series

UL/CUL/ENEC/CB/CE pending

Model No.	Output	Tol.	Effi.
PWM-120-12	12V, 0~10A	±4%	89.0%
PWM-120-24	24V, 0~5A	±4%	90.0%
PWM-120-36	36V, 0~3.4A	±2%	90.0%
PWM-120-48	48V, 0~2.5A	±1%	91.0%

# PLC series

30~96W Single Output with PFC

## Features

- Universal AC input / Full range
- Fully isolated plastic case with screw terminal style of I/O
- Adjustable output voltage and current level
- Built-in active PFC function
- High efficiency up to 89%
- Class 2 power unit / Pass LPS
- Isolation class II, no F.G. for PLC-30
- Cooling by free air convection
- Protections: Short circuit / Over current / Over voltage / Over temperature
- 100% full load burn-in test
- Suitable for LED lighting and moving sign applications
- 2 years warranty



	PLC-30	PLC-45/60	PLC-100
AC input voltage range	90~264VAC ; 127~370VDC		
AC inrush current (max.)	Cold start, 35A at 230VAC		Cold start, 40A at 230VAC
DC adjustment range	95%~110% rated output voltage	90%~110% rated output voltage	85%~100% rated output voltage
Current adjustment range	75%~103%		75%~100%
Over current protection	100%~110% constant current limiting, auto-recovery	95%~110% constant current limiting, auto-recovery	95%~102% constant current limiting, auto-recovery
Over voltage protection	110%~155% rated output voltage	115%~140% rated output voltage	107%~135% rated output voltage
Setup time	500ms at full load and 230VAC		
Withstand voltage	I/P-O/P: 3.75kVAC	I/P-O/P: 3.75kVAC, I/P-FG: 2kVAC, O/P-FG:1.5kVAC	
Working temperature	-30~+50°C (refer to output derating curve)		
Safety standards	UL1310, TUV EN61347-1, EN61347-2-13, PSE J61347-1, J61347-2-13 approved; TUV EN60950-1 approved for PLC-100 only		
EMC standards	EN55015, EN55022 class B (PLC-45/60/100), EN61000-3-2 class C, EN61000-3-3, EN61000-4-2,3,4,5,6,8,11, EN61547		
Connection (Input / Output)	2+2P screw terminal block	3+2P screw terminal block	
Dimension (LxWxH)(mm)	160x 46x 30	181.5x 62x 35	200.5x 69.5x 35
Packing	0.2kg ; 70pcs / 15kg	0.41kg ; 30pcs / 13.3kg	0.52kg ; 25pcs / 14kg

## PLC-30 Series

Model No.	Output	Tol.	R&N	Effi.
PLC-30-9	9V, 0~3.3A	±10%	2.6V	80.0%
PLC-30-12	12V, 0~2.5A	±10%	2.0V	82.5%
PLC-30-15	15V, 0~2.0A	±10%	2.6V	83.5%
PLC-30-20	20V, 0~1.5A	±10%	2.6V	84.0%
PLC-30-24	24V, 0~1.25A	±10%	2.4V	84.0%
PLC-30-27	27V, 0~1.12A	±10%	2.3V	84.5%
PLC-30-36	36V, 0~0.84A	±10%	3.6V	85.0%
PLC-30-48	48V, 0~0.63A	±10%	3.7V	85.5%

## PLC-60 Series

Model No.	Output	Tol.	R&N	Effi.
PLC-60-12	12V, 0~5.0A	±10%	2.0V	85.0%
PLC-60-15	15V, 0~4.0A	±10%	2.4V	86.0%
PLC-60-20	20V, 0~3.0A	±10%	1.8V	87.5%
PLC-60-24	24V, 0~2.5A	±10%	2.4V	87.0%
PLC-60-27	27V, 0~2.3A	±10%	2.7V	88.0%
PLC-60-36	36V, 0~1.7A	±10%	3.6V	89.0%
PLC-60-48	48V, 0~1.3A	±10%	4.6V	89.0%

## PLC-45 Series

Model No.	Output	Tol.	R&N	Effi.
PLC-45-12	12V, 0~3.8A	±10%	2.0V	83.5%
PLC-45-15	15V, 0~3.0A	±10%	2.4V	85.0%
PLC-45-20	20V, 0~2.3A	±10%	1.8V	86.5%
PLC-45-24	24V, 0~1.9A	±10%	2.7V	86.5%
PLC-45-27	27V, 0~1.7A	±10%	2.7V	86.5%
PLC-45-36	36V, 0~1.25A	±10%	3.6V	87.5%
PLC-45-48	48V, 0~0.95A	±10%	4.6V	87.5%

## PLC-100 Series

Model No.	Output	Tol.	R&N	Effi.
PLC-100-12	12V, 0~5.0A	±3%	150mV	83.0%
PLC-100-15	15V, 0~5.0A	±3%	150mV	85.0%
PLC-100-20	20V, 0~4.8A	±3%	150mV	88.5%
PLC-100-24	24V, 0~4.0A	±3%	150mV	88.5%
PLC-100-27	27V, 0~3.55A	±3%	150mV	88.0%
PLC-100-36	36V, 0~2.65A	±2%	150mV	88.0%
PLC-100-48	48V, 0~2.0A	±2%	200mV	88.5%

# PLN series

20~96W Single Output with PFC

## Features

- Universal AC input (up to 295VAC) / Full range
- Fully isolated plastic case with IP64 level
- Built-in active PFC function
- Protections: Short circuit / Over current / Over voltage / Over temperature
- Class 2 power unit / Pass LPS
- Isolation class II, no F.G. for PLN-20/30
- User adjustable output voltage (except for PLN-20) and current protection level
- Cooling by free air convection
- Suitable for LED lighting and moving sign applications
- 2 years warranty

	PLN-20	PLN-30	PLN-45/60	PLN-100						
<b>INPUT</b>	<table border="1"> <tr> <td>PLN-20</td> <td>PLN-30</td> <td>PLN-45/60/100</td> </tr> <tr> <td></td> <td></td> <td></td> </tr> </table>				PLN-20	PLN-30	PLN-45/60/100			
PLN-20	PLN-30	PLN-45/60/100								
<b>OUTPUT</b>	<table border="1"> <tr> <td>PLN-20</td> <td>PLN-30/45/60/100</td> </tr> <tr> <td></td> <td></td> </tr> </table>				PLN-20	PLN-30/45/60/100				
PLN-20	PLN-30/45/60/100									
AC input voltage range	90~277VAC; 127~392VDC		90~295VAC ; 127~417VDC							
AC inrush current (max.)	Cold start, 35A at 230VAC			Cold start, 40A at 230VAC						
DC adjustment range	None	95%~108% rated output voltage		85%~100% rated output voltage						
Current adjustment range	75%~100%	75%~103%								
Over current protection	95%~110% constant current limiting, auto-recovery	100%~110% constant current limiting, auto-recovery	95%~110% constant current limiting, auto-recovery	95%~102% constant current limiting, auto-recovery						
Over voltage protection	105%~142% rated output voltage	110%~155% rated output voltage	115%~140% rated output voltage	107%~135% rated output voltage						
Setup time	500ms at full load and 230VAC									
Withstand voltage	I/P-O/P: 3.75kVAC		I/P-O/P: 3.75kVAC I/P-FG: 2kVAC O/P-FG: 1.5kVAC							
Working temperature	-30~+60°C		-30~+50°C (refer to output derating curve)							
Safety standards	UL8750, TUV EN61347-1, EN61347-2-13, PSE J61347-1, J61347-2-13 approved for PLN-20 UL879, UL1310, UL8750(PLN-45/60), TUV EN61347-1, EN61347-2-13, PSE J61347-1, J61347-2-13 approved for PLN-30/45/60 UL879, UL1310, UL8750, TUV EN61347-1, EN61347-2-13, EN60950-1, PSE J61347-1, J61347-2-13 approved for PLN-100									
EMC standards	EN55015, EN55022 class B (PLN-60/100 only), EN61000-3-2 class C, EN61000-3-3, EN61000-4-2,3,4,5,6,8,11, EN61547									
Connection	Input UL rated, UL1015 18AWGx2C (32cm)	Output UL rated, SVT 18AWGx2C (32cm)	UL rated, SVT 18AWGx3C (30cm) UL rated, SVT 18AWGx2C (30cm)	UL rated, SVT 18AWGx3C (31cm) UL rated, SVT 18AWGx2C (31cm)						
Dimension (LxWxH) (mm)	148.5x 38.5x 28	145x 47x 30	181x 61.5x 35	200x 70.5x 35						

## PLN-20 Series



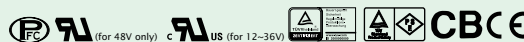
Model No.	Output	Tol.	R&N	Effi.
PLN-20-12	12V, 0~1.6A	±10%	2.5V	80.0%
PLN-20-18	18V, 0~1.1A	±10%	3.0V	81.0%
PLN-20-24	24V, 0~0.8A	±10%	3.0V	82.0%
PLN-20-36	36V, 0~0.55A	±10%	3.0V	83.0%
PLN-20-48	48V, 0~0.42A	±10%	3.8V	83.5%

## PLN-30 Series



Model No.	Output	Tol.	R&N	Effi.
PLN-30-9	9V, 0~3.3A	±10%	2.6V	80.0%
PLN-30-12	12V, 0~2.5A	±10%	2.0V	82.5%
PLN-30-15	15V, 0~2.0A	±10%	2.6V	83.5%
PLN-30-20	20V, 0~1.5A	±10%	2.6V	84.0%
PLN-30-24	24V, 0~1.25A	±10%	2.6V	84.0%
PLN-30-27	27V, 0~1.12A	±10%	2.3V	84.5%
PLN-30-36	36V, 0~0.84A	±10%	4.5V	85.0%
PLN-30-48	48V, 0~0.63A	±10%	3.7V	85.5%

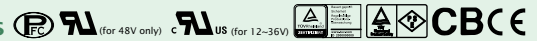
## PLN-45 Series



Model No.	Output	Tol.	R&N	Effi.
PLN-45-12	12V, 0~3.8A	±10%	2.0V	83.5%
PLN-45-15	15V, 0~3.0A	±10%	2.4V	85.0%
PLN-45-20	20V, 0~2.3A	±10%	1.8V	86.5%

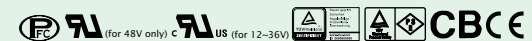
Model No.	Output	Tol.	R&N	Effi.
PLN-45-24	24V, 0~1.9A	±10%	2.7V	86.5%
PLN-45-27	27V, 0~1.7A	±10%	2.7V	86.5%
PLN-45-36	36V, 0~1.25A	±10%	3.6V	87.5%
PLN-45-48	48V, 0~0.95A	±10%	4.6V	87.5%

## PLN-60 Series



Model No.	Output	Tol.	R&N	Effi.
PLN-60-12	12V, 0~5.0A	±10%	2.0V	85.0%
PLN-60-15	15V, 0~4.0A	±10%	2.4V	86.0%
PLN-60-20	20V, 0~3.0A	±10%	1.8V	87.5%
PLN-60-24	24V, 0~2.5A	±10%	2.7V	87.0%
PLN-60-27	27V, 0~2.3A	±10%	2.7V	88.0%
PLN-60-36	36V, 0~1.7A	±10%	3.6V	89.0%
PLN-60-48	48V, 0~1.3A	±10%	4.6V	89.0%

## PLN-100 Series



Model No.	Output	Tol.	R&N	Effi.
PLN-100-12	12V, 0~5.0A	±3%	150mV	83.0%
PLN-100-15	15V, 0~5.0A	±3%	150mV	85.0%
PLN-100-20	20V, 0~4.8A	±3%	150mV	88.5%
PLN-100-24	24V, 0~4.0A	±3%	150mV	88.5%
PLN-100-27	27V, 0~3.55A	±3%	150mV	88.0%
PLN-100-36	36V, 0~2.65A	±2%	150mV	88.0%
PLN-100-48	48V, 0~2.0A	±2%	200mV	88.5%

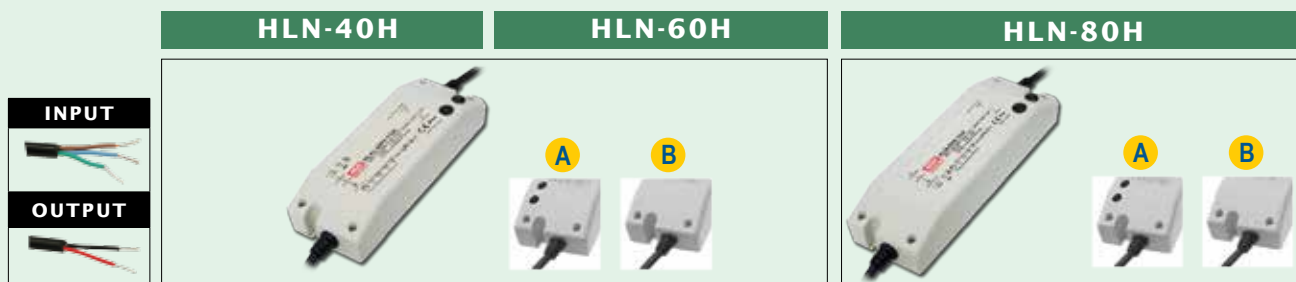
# HLN series

40~80W Single Output with PFC

## ► Features

- Universal AC input (up to 305VAC) / Full range
- Fully isolated plastic case with IP64 level
- Built-in active PFC function
- Protections:  
Short circuit / Over current / Over voltage / Over temperature
- Class 2 power unit / Pass LPS
- High efficiency up to 91%
- Cooling by free air convection

- Suitable for dry, damp location
- Suitable for LED lighting and moving sign applications
- Multiple models for choice:  
A-Type: IP64 rated. Output voltage and constant current level can be adjusted through internal potentiometer  
B-Type: IP64 rated and **built-in 3 in 1 dimming function** (1-10VDC, PWM signal, or resistance)
- 3 years warranty



AC input voltage range	90~305VAC; 127~431VDC		
AC inrush current (max.)	Cold start, 50A at 230VAC	Cold start, 55A at 230VAC	Cold start, 70A at 230VAC
DC adjustment range	±10% rated output voltage (A-Type only)		
Current adjustment range	60%~100%		
Over current protection	95%~108% constant current limiting, auto-recovery		
Over voltage protection	109%~150% rated output voltage		
Setup, rise, hold up time	500ms, 80ms, 16ms at full load and 230VAC		
Withstand voltage	I/P-O/P: 3.75kVAC, I/P-FG: 2kVAC, O/P-FG: 1.5kVAC		
Working temperature	-40~+50°C (refer to output derating curve)		
Safety standards	UL8750, TUV EN61347-1, EN61347-2-13, PSE J61347-1, J61347-2-13 approved; Design refer to UL/EN60950-1, EN60335-1 for HLN-40H/60H		
EMC standards	EN55015, EN61000-3-2 class C, EN61000-3-3, EN61000-4-2,3,4,5,6,8,11, EN61547		
Connection	Input	UL rated, SVT 18AWGx3C (30cm)	
	Output	A-Type: UL rated, SVT 18AWGx2C (30cm) ; B-Type: UL rated, SVT 18AWGx4C (30cm)	
Dimension (LxWxH) (mm)	161 x 61.5 x 35		181 x 61.5 x 35

## HLN-40H Series

Model No.	Output	Tol.	R&N	Effi.
HLN-40H-12(A)	12V, 0~3.33A	±2.5%	150mV	86.5%
HLN-40H-15(A)	15V, 0~2.67A	±2.0%	150mV	86.5%
HLN-40H-20(A)	20V, 0~2.00A	±1.0%	150mV	87.5%
HLN-40H-24(A)	24V, 0~1.67A	±1.0%	150mV	88.0%
HLN-40H-30(A)	30V, 0~1.34A	±1.0%	200mV	88.5%
HLN-40H-36(A)	36V, 0~1.12A	±1.0%	200mV	88.5%
HLN-40H-42(A)	42V, 0~0.96A	±1.0%	300mV	88.5%
HLN-40H-48(A)	48V, 0~0.84A	±1.0%	300mV	89.0%
HLN-40H-54(A)	54V, 0~0.75A	±1.0%	300mV	89.0%

○ = A or B

## HLN-60H Series

Model No.	Output	Tol.	R&N	Effi.
HLN-60H-15(A)	15V, 0~4.0A	±2.0%	150mV	87.0%
HLN-60H-20(A)	20V, 0~3.0A	±1.0%	150mV	88.5%
HLN-60H-24(A)	24V, 0~2.5A	±1.0%	150mV	89.0%
HLN-60H-30(A)	30V, 0~2.0A	±1.0%	200mV	89.5%

Model No.	Output	Tol.	R&N	Effi.
HLN-60H-36(A)	36V, 0~1.70A	±1.0%	200mV	90.0%
HLN-60H-42(A)	42V, 0~1.45A	±1.0%	300mV	90.0%
HLN-60H-48(A)	48V, 0~1.30A	±1.0%	300mV	90.5%
HLN-60H-54(A)	54V, 0~1.15A	±1.0%	300mV	90.5%

○ = A or B

## HLN-80H Series

Model No.	Output	Tol.	R&N	Effi.
HLN-80H-12(A)	12V, 0~5.0A	±2.5%	150mV	88.0%
HLN-80H-15(A)	15V, 0~5.0A	±2.0%	150mV	89.0%
HLN-80H-20(A)	20V, 0~4.0A	±1.0%	150mV	90.0%
HLN-80H-24(A)	24V, 0~3.4A	±1.0%	150mV	90.5%
HLN-80H-30(A)	30V, 0~2.7A	±1.0%	200mV	91.0%
HLN-80H-36(A)	36V, 0~2.3A	±1.0%	200mV	91.0%
HLN-80H-42(A)	42V, 0~1.95A	±1.0%	200mV	91.0%
HLN-80H-48(A)	48V, 0~1.7A	±1.0%	200mV	91.0%
HLN-80H-54(A)	54V, 0~1.5A	±1.0%	200mV	91.0%

○ = A or B

# LCM series

25~60W Multiple-Stage Output Current LED Power Supply

## Features

- Output current level selectable by DIP switch
- LCM-25(DA): 180~277VAC input only  
LCM-40(DA)/60(DA): 180~295VAC input only
- Built-in active PFC function
- Protections: Short circuit / Over voltage (40W/60W only) / Over temp.
- Cooling by free air convection
- Fully isolated plastic case
- No load power consumption <0.5W (LCM-25/25DA/40DA/60DA)  
No load power consumption <1W (LCM-40/60)
- Class II power unit, no F.G.
- Logarithm or linear dimming curve selectable (meet IEC62386-207) for DA-Type
- Built-in 0~10Vdc and PWM signal dimming function (non DA-Type)
- Built-in DALI interface and push dimming function (DA-Type)
- 12V/50mA auxiliary output for LCM-40/60 (optional for LCM-40DA/60DA)
- Temperature compensation function by external NTC (40W/60W only)
- Power supplies synchronization function up to 10 units
- Suitable for indoor LED lighting applications
- 3 years warranty

	INPUT		OUTPUT		LCM-25(DA)	LCM-40(DA) / 60(DA)
	25W/40W/60W	25W	40W/60W			
Non-DA Type						
DA-Type						

AC input voltage range	180~277VAC; 254~392VDC	180~295VAC; 254~417VDC
AC inrush current (Typ.)	Cold start, 20A at 230VAC	
Short circuit protection	Constant current limiting, recovers automatically after fault condition is removed	
Over voltage protection	LCM-40/40DA: 110~130VDC, LCM-60/60DA: 105~125VDC	
Over temperature protection	LCM-25(DA): Shut down o/p voltage, recovers automatically after fault condition is removed LCM-40/60(DA): Shut down o/p voltage, re-power on to recover	
Setup, rise, hold up time	500ms, 50ms, 30ms	500ms, 80ms, 16ms at full load and 230VAC
Withstand voltage	I/P-O/P: 3.75kVAC	
Working temperature	-30~+60°C (refer to output derating curve)	
Safety standards	UL8750, ENEC EN61347-1, EN61347-2-13, EN62384 approved; CQC GB19510.1, GB19510.14 for LCM-40(DA)/60(DA)	
DALI standards	Comply with IEC62386-101, 102, 207 (LCM-25DA/40DA/60DA only)	
EMC standards	EN55015, EN61000-3-2 class C, EN61000-3-3, EN61000-4-2,3,4,5,6,8,11, EN61547; GB17743, GB17625.1 for LCM-40(DA)/60(DA)	
Dimension (LxWxH)(mm)	105x 68x 23	123.5x 81.5x 23

## LCM-25(DA) Series



Output	Io Tol.	R&N	Effi.	DIP Switch					
				1	2	3	4	5	6
350mA, 6~54V	±5%	400mV	86%	----	----	----	----	----	----
500mA, 6~50V				ON	----	----	----	----	----
600mA, 6~42V				ON	ON	----	----	----	----
700mA, 6~36V (Factory setting)				ON	ON	ON	----	----	ON
900mA, 6~28V				ON	ON	ON	ON	----	ON
1050mA, 6~24V				ON	ON	ON	ON	ON	ON

## LCM-40(DA) Series



Output	Io Tol.	R&N	Effi.	DIP Switch					
				1	2	3	4	5	6
350mA, 2~100V	±5%	700mV	91%	----	----	----	----	----	----
500mA, 2~80V				ON	----	----	----	----	----
600mA, 2~67V				ON	ON	----	----	----	----
700mA, 2~57V (Factory setting)				ON	ON	ON	----	----	ON
900mA, 2~45V				ON	ON	ON	ON	----	ON
1050mA, 2~40V				ON	ON	ON	ON	ON	ON

## LCM-60(DA) Series



Output	Io Tol.	R&N	Effi.	DIP Switch					
				1	2	3	4	5	6
500mA, 2~90V	±5%	700mV	92%	----	----	----	----	----	----
600mA, 2~90V				ON	----	----	----	----	----
700mA, 2~86V (Factory setting)				ON	ON	----	----	----	----
900mA, 2~67V				ON	ON	ON	----	----	ON
1050mA, 2~57V				ON	ON	ON	ON	----	ON
1400mA, 2~42V				ON	ON	ON	ON	ON	ON

- ▶ LCM-25/40/60 are primary models with 0~10Vdc and PWM signal dimming function.
- ▶ LCM-25DA/40DA/60DA have DALI interface and push dimming function.

# PLP series

20~60W Single Output with PFC

## Features

- Universal AC input / Full range
- Protections: Short circuit / Over current / Over voltage / Over temperature (PLP-20 only)
- Built-in active PFC function
- Cooling by free air convection
- Class 2 power unit / Pass LPS
- Isolation class II, no F.G. for PLP-20
- Suitable for building in LED lighting systems
- 2 years warranty



AC input voltage range	90~277VAC; 127~392VDC	90~264VAC; 127~370VDC
AC inrush current (max.)	Cold start, 25A at 230VAC	PLP-45: Cold start, 30A at 230VAC PLP-60: Cold start, 35A at 230VAC
Current adjustable range	75%~100%	
Over current protection	Range	95%~110%
	Type	100%~110%
Setup time	500ms at full load and 230VAC	
Withstand voltage	I/P-O/P: 3.75kVAC	I/P-O/P: 3.75kVAC, I/P-FG: 2kVAC, O/P-FG: 1.5kVAC
Working temperature	-30~+60°C	-30~+70°C (refer to output derating curve)
Safety standards	UL8750, TUV EN61347-1, EN61347-2-13 approved	
EMC standards	EN55015, EN61000-3-2 class C, EN61000-3-3, EN61000-4-2,3,4,5,6,8,11, EN61547	
Connection	UL1015 18AWGx2C (30cm)	3+2P / 3.96mm pitch, JST P/N: B3P / B2P-VH
Dimension (LxWxH)(mm)	140x 32x 22	101.6x 50.8x 26.6
		101.6x 50.8x 29.6

## PLP-20 Series



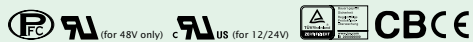
Model No.	Output	Tol.	R&N	Effi.
PLP-20-12	12V, 0~1.6A	±10%	2.5V	80.0%
PLP-20-18	18V, 0~1.1A	±10%	3.0V	81.0%
PLP-20-24	24V, 0~0.8A	±10%	3.0V	82.0%
PLP-20-36	36V, 0~0.55A	±10%	3.0V	83.0%
PLP-20-48	48V, 0~0.42A	±10%	3.8V	83.5%

## PLP-45 Series



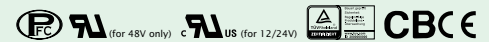
Model No.	Output	Tol.	R&N	Effi.
PLP-45-12	12V, 0~3.8A	±10%	4.2V	86%
PLP-45-24	24V, 0~1.9A	±10%	3.8V	89%
PLP-45-48	48V, 0~0.95A	±10%	4.8V	89%

## PLP-30 Series






Model No.	Output	Tol.	R&N	Effi.
PLP-30-12	12V, 0~2.5A	±10%	2.0V	83.0%
PLP-30-24	24V, 0~1.3A	±10%	2.4V	85.5%
PLP-30-48	48V, 0~0.63A	±10%	4.8V	86.5%

## PLP-60 Series



Model No.	Output	Tol.	R&N	Effi.
PLP-60-12	12V, 0~5.0A	±10%	4.5V	84%
PLP-60-24	24V, 0~2.5A	±10%	4.5V	88%
PLP-60-48	48V, 0~1.3A	±10%	4.8V	89%

## Special Symbols for EN61347-2-13

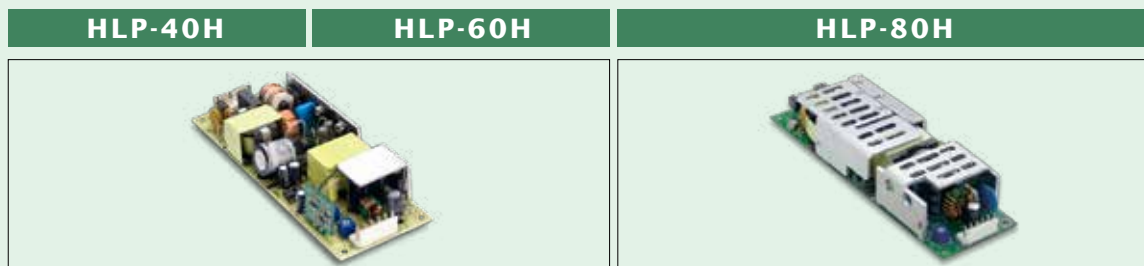
	Protection against overheating to prevent the lamp controlgear case temperature under any conditions of use from exceeding the indicated value (110°C)
	Suitable for direct mounting on normally flammable surfaces, such as wood (>2mm)
	Based on VDE0710-14, can be installed inside a wooden material like wooden cabinet. The minimum distance between the product enclosure to wooden material in each side is defined.
<b>LPS</b>	Limited power source
t <sub>c</sub> : 80°C t <sub>a</sub> : 40°C	Full load operation up to 40°C with surface temperature of case < 80°C
<b>SELV</b>	Vo < 120VDC can have this mark on the unit

# HLP series

40~80W Single Output with PFC

## ► Features

- Universal AC input (up to 305VAC) / Full range
- Protections:
  - Short circuit / Over current / Over voltage / Over temperature
- Built-in active PFC function
- Output constant current level adjustable
- Class 2 power unit / Pass LPS
- Cooling by free air convection
- Suitable for built-in LED lighting system
- Built-in 3 in 1 dimming function (1~10VDC, PWM signal, or resistance)
- 3 years warranty



AC input voltage range	90~305VAC ; 127~431VDC		
AC inrush current (max.)	Cold start, 50A at 230VAC	Cold start, 55A at 230VAC	Cold start, 70A at 230VAC
DC adjustment range	±10% rated output voltage		
Current adjustment range	60%~100%	80%~100%	
Over current protection	95%~108% constant current limiting, auto-recovery		
Over voltage protection	109%~145% rated output voltage		
Setup, rise, hold up time	500ms, 80ms, 16ms at full load and 230VAC	500ms, 200ms, 16ms at full load and 230VAC	
Withstand voltage	I/P-O/P: 3.75kVAC, I/P-FG: 2kVAC, O/P-FG:1.5kVAC		
Working temperature	-40~+70°C (refer to output derating curve)		
Safety standards	UL8750, TUV EN61347-1, EN61347-2-13 approved; Design refer to EN60335-1(HLP-40H/60H), UL60950-1, EN60950-1		
EMC standards	EN55015, EN61000-3-2 class C, EN61000-3-3, EN61000-4-2,3,4,5,6,8,11, EN61547		
Connection	Input	6+6P/3.96mm pitch, JST P/N: B6P-VH	
	Output		
Dimension (LxWxH) (mm)	147x 53x 27		167x 53x 29.5

## HLP-40H Series



Model No.	Output	Tol.	R&N	Effi.
HLP-40H-12	12V, 0~3.33A	±2.5%	150mV	87.0%
HLP-40H-15	15V, 0~2.67A	±2.0%	150mV	87.0%
HLP-40H-20	20V, 0~2.00A	±1.0%	150mV	88.0%
HLP-40H-24	24V, 0~1.67A	±1.0%	150mV	88.0%
HLP-40H-30	30V, 0~1.34A	±1.0%	200mV	88.5%
HLP-40H-36	36V, 0~1.12A	±1.0%	200mV	89.0%
HLP-40H-42	42V, 0~0.96A	±1.0%	300mV	89.0%
HLP-40H-48	48V, 0~0.84A	±1.0%	300mV	89.5%
HLP-40H-54	54V, 0~0.75A	±1.0%	300mV	89.5%

Model No.	Output	Tol.	R&N	Effi.
HLP-60H-36	36V, 0~1.70A	±1.0%	200mV	90.0%
HLP-60H-42	42V, 0~1.45A	±1.0%	300mV	90.0%
HLP-60H-48	48V, 0~1.30A	±1.0%	300mV	90.5%
HLP-60H-54	54V, 0~1.15A	±1.0%	300mV	90.5%

## HLP-60H Series



Model No.	Output	Tol.	R&N	Effi.
HLP-60H-15	15V, 0~4.0A	±2.0%	150mV	88.0%
HLP-60H-20	20V, 0~3.0A	±1.0%	150mV	89.0%
HLP-60H-24	24V, 0~2.5A	±1.0%	150mV	89.5%
HLP-60H-30	30V, 0~2.0A	±1.0%	200mV	90.0%

## HLP-80H Series



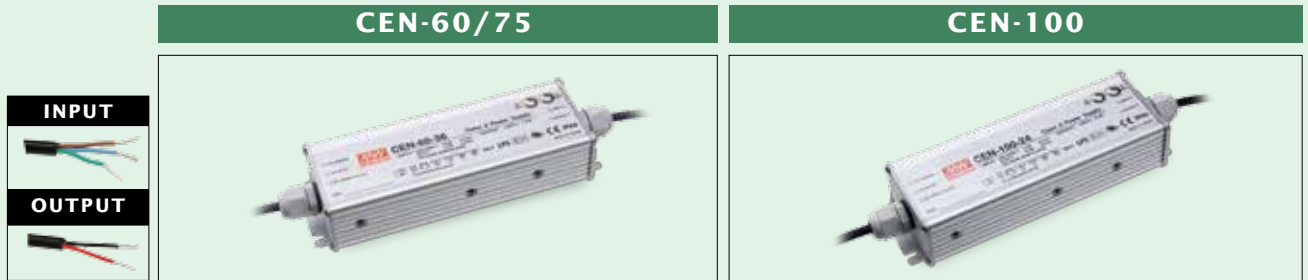
Model No.	Output	Tol.	R&N	Effi.
HLP-80H-12	12V, 0~5.0A	±2.5%	150mV	87.5%
HLP-80H-15	15V, 0~5.0A	±2.0%	150mV	88.5%
HLP-80H-20	20V, 0~4.0A	±1.0%	150mV	89.5%
HLP-80H-24	24V, 0~3.4A	±1.0%	150mV	90.0%
HLP-80H-30	30V, 0~2.7A	±1.0%	200mV	90.0%
HLP-80H-36	36V, 0~2.3A	±1.0%	200mV	90.0%
HLP-80H-42	42V, 0~1.95A	±1.0%	200mV	90.0%
HLP-80H-48	48V, 0~1.7A	±1.0%	200mV	90.0%
HLP-80H-54	54V, 0~1.5A	±1.0%	200mV	90.0%

# CEN series

60~96W Single Output with PFC

## Features

- Universal AC input (up to 295VAC) / Full range
- Protections:
  - Short circuit / Over current / Over voltage / Over temperature
- Built-in active PFC function
- IP66 design
- Meet 4kV surge immunity level (IEC61000-4-5)
- Class 2 power unit / Pass LPS
- Cooling by free air convection
- Suitable for dry, damp, and wet location
- Suitable for LED lighting and moving sign applications
- 3 years warranty



AC input voltage range	90~295VAC ; 127~417VDC	
AC inrush current (max.)	Cold start, 45A at 230VAC	
DC adjustment range	±10% rated output voltage	
Current adjustment range	75%~100%	65%~100%
Over current protection	95%~110% constant current limiting, auto-recovery	
Over voltage protection	110%~140% rated output voltage	110%~135% rated output voltage
Over temp. protection	Shut down o/p voltage, re-power on to recover	
Setup time	500ms at full load and 230VAC, no hold up time	500ms at full load and 230VAC, no hold up time
Withstand voltage	I/P-O/P: 3.75kVAC, I/P-FG: 2kVAC, O/P-FG: 1.5kVAC	
Working temperature	-30~+70°C (refer to output derating curve)	
Safety standards	UL8750, UL879 (except for CEN-100), TUV EN61347-1, EN61347-2-13, PSE J61347-1, J61347-2-13 approved	
EMC standards	EN55015, EN61000-3-2 class C, EN61000-3-3, EN61000-4-2,3,4,5,6,8,11, EN61547	
Connection	Input	UL rated, SJTW 18AWGx3C (30cm)
	Output	UL rated, SVT 18AWGx2C (30cm)
Dimension (LxWxH) (mm)	185x 62.5x 40.5	195x 62.5x 40.5

## CEN-60 Series



Model No.	Output	Tol.	R&N	Effi.
CEN-60-12	12V, 0~5.0A	±10%	2.0V	86%
CEN-60-15	15V, 0~4.0A	±10%	2.4V	87%
CEN-60-20	20V, 0~3.0A	±10%	1.8V	88%
CEN-60-24	24V, 0~2.5A	±10%	2.4V	89%
CEN-60-30	30V, 0~2.0A	±10%	3.0V	90%
CEN-60-36	36V, 0~1.7A	±10%	3.6V	90%
CEN-60-42	42V, 0~1.45A	±10%	4.0V	90%
CEN-60-48	48V, 0~1.3A	±10%	4.6V	91%
CEN-60-54	54V, 0~1.15A	±10%	5.0V	91%

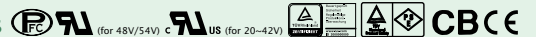
Model No.	Output	Tol.	R&N	Effi.
CEN-75-30	30V, 0~2.50A	±10%	3.0V	90%
CEN-75-36	36V, 0~2.10A	±10%	3.6V	90%
CEN-75-42	42V, 0~1.80A	±10%	4.0V	90%
CEN-75-48	48V, 0~1.57A	±10%	4.6V	91%
CEN-75-54	54V, 0~1.40A	±10%	5.0V	91%

## CEN-75 Series



Model No.	Output	Tol.	R&N	Effi.
CEN-75-15	15V, 0~5.00A	±10%	2.7V	87%
CEN-75-20	20V, 0~3.75A	±10%	2.0V	88%
CEN-75-24	24V, 0~3.15A	±10%	2.7V	89%

## CEN-100 Series



Model No.	Output	Tol.	R&N	Effi.
CEN-100-20	20V, 0~4.80A	±10%	2.0V	88%
CEN-100-24	24V, 0~4.00A	±10%	2.7V	89%
CEN-100-30	30V, 0~3.20A	±10%	3.0V	90%
CEN-100-36	36V, 0~2.65A	±10%	3.6V	90%
CEN-100-42	42V, 0~2.28A	±10%	4.0V	90%
CEN-100-48	48V, 0~2.00A	±10%	4.6V	91%
CEN-100-54	54V, 0~1.77A	±10%	5.0V	91%

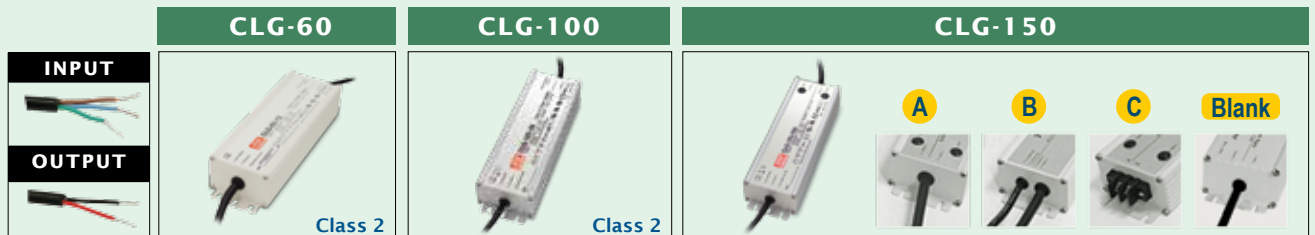


# CLG series

60~150W Single Output with PFC

## ► Features

- Universal AC input (up to 295VAC) / Full range
- Protections:
  - Short circuit / Over current / Over voltage / Over temperature
- Built-in active PFC function
- IP67/IP65 design for indoor or outdoor installations (except for C-Type)
- Output current adjustable through output cable or internal potentiometer (CLG-150)
- Class 2 power unit / Pass LPS (CLG-60&100)
- Cooling by free air convection
- Suitable for LED lighting, street lighting and moving sign applications
- Meet 4kV surge immunity level (IEC 61000-4-5)
- Multiple models for CLG-150 :
  - A-Type:** IP65 rated. Output voltage and constant current level can be adjusted through internal potentiometer
  - B-Type:** IP67 rated. Constant current level adjustable through output cable
  - C-Type:** Non IP. Terminal block for I/O connection
  - Blank-Type:** IP67 rated. Cable for I/O connection
- 3 years warranty



AC input voltage range	90~295VAC; 127~417VDC		
AC inrush current (max.)	Cold start, 35A at 230VAC	Cold start, 40A at 230VAC	Cold start, 65A at 230VAC
DC adjustment range	Fixed. Can be modified between 90%~110% (CLG-60) or 85%~100% (CLG-100) rated output voltage		Can be adjusted between 85%~110% by internal potentiometer (A and C-Type)
Current adjustment range	Fixed. Can be modified between 75%~103% rated output current		Can be adjusted between 50%~100% by internal potentiometer (A and C-Type) or through output cable (B-Type)
Over current protection	95%~110% constant current, auto-recovery	95%~102% constant current, auto-recovery	95%~108% constant current limiting, auto-recovery
Over voltage protection	110%~140% rated output voltage		110%~145% rated output voltage
Setup, rise, hold up time	500ms(setup time), no hold up time	500ms, 80ms, 60ms at full load and 230VAC	500ms, 80ms, 16ms at full load and 230VAC
Withstand voltage	I/P-O/P: 3.75kVAC, I/P-FG: 2kVAC, O/P-FG: 1.5kVAC		
Working temperature	-30~+70°C (refer to output derating curve)		
Safety standards	UL1310, UL8750, UL879, TUV EN61347-1, EN61347-2-13, PSE J61347-1, J61347-2-13 approved; TUV EN60950-1 for CLG-100 only		UL60950-1, UL1012, UL8750, UL879, TUV EN60950-1, EN61347-1, EN61347-2-13, PSE J61347-1, J61347-2-13(except for CLG-150 C-Type) approved
EMC standards	EN55015, EN55022 class B, EN61000-3-2 class C, EN61000-3-3, EN61000-4-2,3,4,5,6,8,11, EN61547		
Connection	Input	UL rated, SJTW 18AWGx3C (30cm)	
	Output	UL rated, SVT 18AWGx2C (30cm)	
Dimension (LxWxH)(mm)	195.6x 61.5x 38.8	222.2x 68x 38.8	A/B/Blank-Type: 222.2x 68x 38.8; C-Type: 229x 68x 38.8
Packing	0.86kg ; 16pcs / 14.8kg	1.0kg ; 12pcs / 13kg	1.0kg ; 12pcs / 13kg

## CLG-60 Series



Model No.	Output	Tol.	R&N	Effi.
★ CLG-60-12	12V, 0~5.0A	±10%	2.0V	85.0%
CLG-60-15	15V, 0~4.0A	±10%	2.4V	86.0%
CLG-60-20	20V, 0~3.0A	±10%	1.8V	87.5%
★ CLG-60-24	24V, 0~2.5A	±10%	2.7V	87.0%
CLG-60-27	27V, 0~2.3A	±10%	2.7V	88.0%
CLG-60-36	36V, 0~1.7A	±10%	3.6V	89.0%
★ CLG-60-48	48V, 0~1.3A	±10%	4.6V	89.0%

## CLG-100 Series



Model No.	Output	Tol.	R&N	Effi.
★ CLG-100-12	12V, 0~5.00A	±3%	150mV	83.0%
CLG-100-15	15V, 0~5.00A	±3%	150mV	85.0%
CLG-100-20	20V, 0~4.80A	±3%	150mV	88.5%
★ CLG-100-24	24V, 0~4.00A	±3%	150mV	88.5%

Model No.	Output	Tol.	R&N	Effi.
CLG-100-27	27V, 0~3.55A	±3%	150mV	88.0%
CLG-100-36	36V, 0~2.65A	±2%	150mV	88.0%
★ CLG-100-48	48V, 0~2.00A	±2%	200mV	88.5%

## CLG-150 Series



Model No.	Output	Tol.	R&N	Effi.
★ CLG-150-12[A]	12V, 0~11.0A	±2%	150mV	88%
CLG-150-15[A]	15V, 0~9.50A	±2%	150mV	88%
CLG-150-20[A]	20V, 0~7.50A	±2%	150mV	90%
★ CLG-150-24[A]	24V, 0~6.30A	±1%	150mV	90%
CLG-150-30[A]	30V, 0~5.00A	±1%	150mV	91%
★ CLG-150-36[A]	36V, 0~4.20A	±1%	150mV	91%
★ CLG-150-48[A]	48V, 0~3.20A	±1%	200mV	91%

□ = A, B, C or blank

★ CLG-60-12/24/48, CLG-100-12/24/48 & CLG-150-12A/24A/36A/48A are our popular models. We will keep sufficient stock for prompt delivery of high quantity orders.

# HLG series

40~60W High Efficiency with PFC

## Features

- Universal AC input (up to 305VAC) / Full range
- Protections:
  - Short circuit / Over current / Over voltage / Over temperature
- Built-in active PFC function
- High efficiency up to 90.5%
- IP67 / IP65 design for indoor or outdoor installations
- Output current adjustable through output cable or internal potentiometer
- Cooling by free air convection
- Suitable for dry, damp, and wet location
- Suitable for LED lighting and street lighting applications
- Meet 4kV surge immunity level (IEC61000-4-5)

- Class 2 power unit
- Multiple models for choice:
  - A-Type:** IP65 rated. Output voltage and constant current level can be adjusted through internal potentiometer
  - B-Type:** IP67 rated and **built-in 3 in 1 dimming function** (1~10VDC, PWM signal, or resistance)
  - Blank-Type:** IP67 rated. Cable for I/O connection
  - D-Type(option):** IP67 rated. Timer dimming function, contact MEAN WELL for details.
- Optional CQC models available (HLG-40H/60H-A/Blank-Type)
- **5 years warranty**



		HLG-40H	HLG-60H
AC input voltage range		90~305VAC ; 127~431VDC	
AC inrush current (max.)		Cold start, 50A at 230VAC	Cold start, 55A at 230VAC
DC adjustment range		±10% rated output voltage (A-Type only)	
Current adjustment range		60%~100%	
Over current protection		95%~108% constant current limiting, auto-recovery	
Over voltage protection		109%~145% rated output voltage	
Setup, rise, hold up time		500ms, 80ms, 16ms at full load and 230VAC	
Withstand voltage		I/P-O/P: 3.75kVAC, I/P-FG: 2kVAC, O/P-FG: 1.5kVAC	
Working temperature		-40~+70°C (refer to output derating curve)	
Safety standards		UL8750, TUV EN61347-1, EN61347-2-13, PSE J61347-1, J61347-2-13 approved; Design refer to EN60335-1	
EMC standards		EN55015, EN61000-3-2 class C, EN61000-3-3, EN61000-4-2,3,4,5,6,8,11, EN61547	
Connection	Input	UL rated, SJTW 18AWGx3C (30cm)	
	Output	A/D/Blank-Type: SVT 18AWGx2C (30cm); B-Type: SVT 18AWGx2C (30cm)+UL2517 18AWGx2C (30cm)	
Dimension (LxWxH) (mm)		171x 61.5x 36.8	

## HLG-40H Series

Model No.	Output	Tol.	R&N	Effi.
HLG-40H-12(A)	12V, 0~3.33A	±2.5%	150mV	86.5%
HLG-40H-15(A)	15V, 0~2.67A	±2.0%	150mV	86.5%
HLG-40H-20(A)	20V, 0~2.00A	±1.0%	150mV	88.0%
HLG-40H-24(A)	24V, 0~1.67A	±1.0%	200mV	88.0%
HLG-40H-30(A)	30V, 0~1.34A	±1.0%	200mV	88.5%
HLG-40H-36(A)	36V, 0~1.12A	±1.0%	200mV	88.5%
HLG-40H-42(A)	42V, 0~0.96A	±1.0%	200mV	88.5%
HLG-40H-48(A)	48V, 0~0.84A	±1.0%	300mV	89.5%
HLG-40H-54(A)	54V, 0~0.75A	±1.0%	300mV	89.5%

○ = A, B, D or Blank

## HLG-60H Series

Model No.	Output	Tol.	R&N	Effi.
HLG-60H-15(A)	15V, 0~4.0A	±2.0%	150mV	87.5%
HLG-60H-20(A)	20V, 0~3.0A	±1.0%	150mV	89.0%
HLG-60H-24(A)	24V, 0~2.5A	±1.0%	150mV	89.5%
HLG-60H-30(A)	30V, 0~2.0A	±1.0%	200mV	90.0%

Model No.	Output	Tol.	R&N	Effi.
HLG-60H-36(A)	36V, 0~1.70A	±1.0%	200mV	90.0%
HLG-60H-42(A)	42V, 0~1.45A	±1.0%	300mV	90.0%
HLG-60H-48(A)	48V, 0~1.30A	±1.0%	300mV	90.5%
HLG-60H-54(A)	54V, 0~1.15A	±1.0%	300mV	90.5%

○ = A, B, D or Blank

### Junction Box for HLG Series



- Optional junction box available for HLG-80H~320H series (A/B/Blank-Type only). Please contact MEAN WELL for details.
- "UL8750 listed" safety & IP66 approved for HLG-80H-□BL (modified from B-Type only)

# HLG series

80~120W High Efficiency with PFC

## Features

- Universal AC input (up to 305VAC) / Full range
- Protections:
  - Short circuit / Over current / Over voltage / Over temperature
- Built-in active PFC function
- High efficiency up to 93.5%
- IP67 / IP65 design for indoor or outdoor installations
- Output current adjustable through output cable or internal potentiometer
- Cooling by free air convection
- Suitable for dry, damp, and wet location
- Suitable for LED lighting and street lighting applications
- Meet 4kV surge immunity level (IEC61000-4-5)
- Class 2 power unit / Pass LPS (except for HLG-120H)

- Multiple models for choice:

**A-Type:** IP65 rated. Output voltage and constant current level can be adjusted through internal potentiometer

**B-Type:** IP67 rated and **built-in 3 in 1 dimming function** (1~10VDC, PWM signal, or resistance)

**Blank-Type:** IP67 rated. Cable for I/O connection

**BL-Type(option):** for HLG-80H B-Type only, "UL8750 listed" safety & IP66 approved, contact MEAN WELL for details

**D-Type(option):** IP67 rated. Timer dimming function, contact MEAN WELL for details (safety pending for 100W/120W)

- Optional CQC models available (HLG-80H/100H/120H-A/Blank type)
- 5 years warranty



AC input voltage range	90~305VAC ; 127~431VDC	
AC inrush current (max.)	Cold start, 70A at 230VAC	Cold start, 60A at 230VAC
DC adjustment range	±10% rated output voltage (A-Type only)	
Current adjustment range	HLG-80H/100H: 60%~100% ; HLG-120H: 50%~100%	
Over current protection	95%~108% constant current limiting, auto-recovery	
Over voltage protection	110%~140% rated output voltage	
Setup, rise, hold up time	500ms, 80ms, 16ms at full load and 230VAC	500ms, 50ms, 16ms at full load and 230VAC
Withstand voltage	I/P-O/P: 3.75kVAC, I/P-FG: 2kVAC, O/P-FG:1.5kVAC	
Working temperature	-40~+70°C (refer to output derating curve)	
Safety standards	UL8750, TUV EN61347-1, EN61347-2-13, PSE J61347-1, J61347-2-13 approved; <b>UL8750 listed for HLG-80H-□BL only</b> ; ENEC EN61347-1, EN61347-2-13 for HLG-120H only	
EMC standards	EN55015, EN55022 class B (except for HLG-80H), EN61000-3-2 class C, EN61000-3-3, EN61000-4-2,3,4,5,6,8,11, EN61547	
Connection	Input	UL rated, SJTW 18AWGx3C (30cm)
	Output	A/D/Blank-Type: SVT 18AWGx2C (30cm) ; B-Type: SVT 18AWGx2C (30cm)+UL2517 18AWGx2C (30cm)
Dimension (LxWxH) (mm)	195.6x 61.5x 38.8	220x 68x 38.8

## HLG-80H Series

Model No.	Output	Tol.	R&N	Effi.
HLG-80H-12(A)	12V, 0~5.0A	±2.5%	150mV	88.0%
HLG-80H-15(A)	15V, 0~5.0A	±2.0%	150mV	89.0%
HLG-80H-20(A)	20V, 0~4.0A	±1.0%	150mV	90.0%
HLG-80H-24(A)	24V, 0~3.4A	±1.0%	150mV	90.5%
HLG-80H-30(A)	30V, 0~2.7A	±1.0%	200mV	91.0%
HLG-80H-36(A)	36V, 0~2.3A	±1.0%	200mV	91.0%
HLG-80H-42(A)	42V, 0~1.95A	±1.0%	200mV	91.0%
HLG-80H-48(A)	48V, 0~1.7A	±1.0%	200mV	91.0%
HLG-80H-54(A)	54V, 0~1.5A	±1.0%	200mV	91.0%

○ = A, B, BL, D or Blank

## HLG-100H Series

Model No.	Output	Tol.	R&N	Effi.
HLG-100H-20(A)	20V, 0~4.8A	±1.0%	150mV	93%
HLG-100H-24(A)	24V, 0~4.0A	±1.0%	150mV	93%
HLG-100H-30(A)	30V, 0~3.2A	±1.0%	200mV	93%
HLG-100H-36(A)	36V, 0~2.65A	±1.0%	200mV	93%

Model No.	Output	Tol.	R&N	Effi.
HLG-100H-42(A)	42V, 0~2.28A	±1.0%	200mV	93%
HLG-100H-48(A)	48V, 0~2.0A	±1.0%	200mV	93%
HLG-100H-54(A)	54V, 0~1.77A	±1.0%	200mV	93%

○ = A, B, D or Blank

## HLG-120H Series

Model No.	Output	Tol.	R&N	Effi.
★ HLG-120H-12(A)	12V, 0~10A	±2.5%	150mV	92.0%
HLG-120H-15(A)	15V, 0~8.0A	±2.0%	150mV	92.0%
HLG-120H-20(A)	20V, 0~6.0A	±1.0%	150mV	93.0%
★ HLG-120H-24(A)	24V, 0~5.0A	±1.0%	150mV	93.0%
HLG-120H-30(A)	30V, 0~4.0A	±1.0%	200mV	93.0%
HLG-120H-36(A)	36V, 0~3.4A	±1.0%	200mV	93.0%
HLG-120H-42(A)	42V, 0~2.9A	±1.0%	200mV	93.0%
★ HLG-120H-48(A)	48V, 0~2.5A	±1.0%	200mV	93.5%
HLG-120H-54(A)	54V, 0~2.3A	±1.0%	200mV	93.5%

○ = A, B, D or Blank

- ★ HLG-120H-12A/24A/48A are our popular models. We will keep sufficient stock for prompt delivery of high quantity orders.

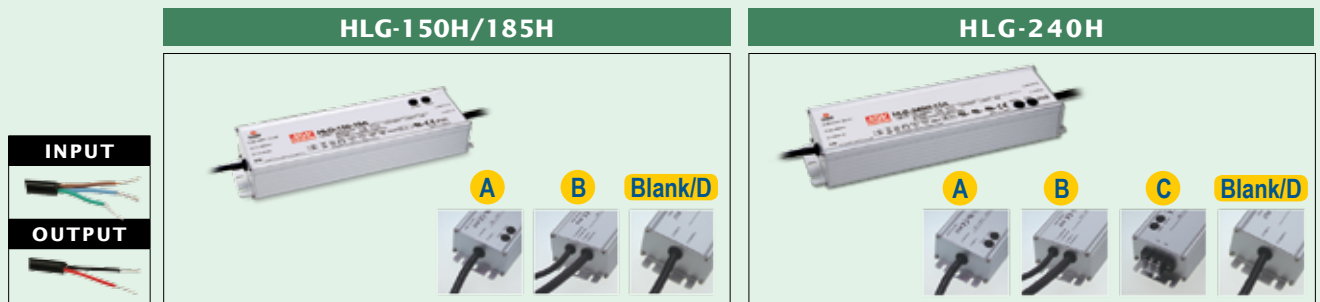
# HLG series

150~240W High Efficiency with PFC

## Features

- Universal AC input (up to 305VAC) / Full range
- Protections: Short circuit / Over current / Over voltage / Over temp.
- Built-in active PFC function
- High efficiency up to 94%
- IP67 / IP65 design for indoor or outdoor installations (except for HLG-240H C-Type)
- Output current adjustable
- Cooling by free air convection
- Suitable for LED lighting and street lighting applications
- Meet 4kV surge immunity level (IEC61000-4-5)
- Type HL LED Driver for use in Class I, Division 2 hazardous location luminaires

- Multiple models for choice:
  - A-Type:** IP65 rated. Output voltage and constant current level can be adjusted through internal potentiometer
  - B-Type:** IP67 rated and **built-in 3 in 1 dimming function** (1~10VDC, PWM signal, or resistance)
  - C-Type:** Terminal block for I/O connection (HLG-240H)
  - Blank-Type:** IP67 rated. Cable for I/O connection
  - D-Type(option):** IP67 rated. Timer dimming function, contact MEAN WELL for details (safety pending)
- Optional CQC models available (HLG-150H/185H/240H-A/Blank-Type)
- 5 years warranty



AC input voltage range	90~305VAC; 127~431VDC	
AC inrush current (max.)	Cold start, 65A at 230VAC	Cold start, 75A at 230VAC
DC adjustment range	±10% rated output voltage	
Current adjustment range	HLG-150H: 60%~100% ; HLG-185H/240H: 50%~100%	
Over current protection	95%~108% constant current limiting, auto-recovery	
Over voltage protection	110%~140% rated output voltage	
Setup, rise, hold up time	500ms, 50ms, 16ms	500ms, 80ms, 15ms at full load and 230VAC
Withstand voltage	I/P-O/P: 3.75kVAC, I/P-FG: 2kVAC, O/P-FG: 1.5kVAC	
Working temperature	-40~+70°C (refer to output derating curve)	
Safety standards	UL8750, TUV EN61347-1, EN61347-2-13, PSE J61347-1, J61347-2-13 (except for HLG-240H C-Type) approved; UL1012, UL60950-1, TUV EN60950-1 approved for HLG-240H only	
EMC standards	EN55015, EN55022 class B, EN61000-3-2 class C, EN61000-3-3, EN61000-4-2,3,4,5,6,8,11, EN61547	
Connection	Input	UL rated, SJTW 18AWGx3C (30cm); Terminal block for HLG-240H C-Type
	Output	A/D/Blank-Type: SJTW 14AWGx2C (30cm) ; B-Type: SJTW 14AWGx2C (30cm)+SJTW 18AWGx2C (30cm); C-Type: Terminal block (HLG-240H)
Dimension (LxWxH)(mm)	A/B/D/Blank-Type: 228x 68x 38.8	A/B/D/Blank-Type: 244.2x 68x 38.8 C-Type: 251x 68x 38.8

## HLG-150H Series



Model No.	Output	Tol.	R&N	Effi.
HLG-150H-12(A)	12V, 0~12.5A	±2.5%	150mV	91.5%
HLG-150H-15(A)	15V, 0~10.0A	±2.0%	150mV	92.0%
HLG-150H-20(A)	20V, 0~7.50A	±1.0%	150mV	93.0%
HLG-150H-24(A)	24V, 0~6.30A	±1.0%	150mV	93.0%
HLG-150H-30(A)	30V, 0~5.00A	±1.0%	200mV	93.5%
HLG-150H-36(A)	36V, 0~4.20A	±1.0%	200mV	93.5%
HLG-150H-42(A)	42V, 0~3.60A	±1.0%	200mV	94.0%
HLG-150H-48(A)	48V, 0~3.20A	±1.0%	200mV	94.0%
HLG-150H-54(A)	54V, 0~2.80A	±1.0%	200mV	94.0%

○ = A, B, D or Blank

## HLG-185H Series



Model No.	Output	Tol.	R&N	Effi.
★ HLG-185H-12(A)	12V, 0~13.0A	±2.5%	150mV	91.5%
HLG-185H-15(A)	15V, 0~11.5A	±2.0%	150mV	92.0%
HLG-185H-20(A)	20V, 0~9.30A	±1.0%	150mV	93.0%
★ HLG-185H-24(A)	24V, 0~7.80A	±1.0%	150mV	93.5%
HLG-185H-30(A)	30V, 0~6.20A	±1.0%	200mV	93.5%

Model No.	Output	Tol.	R&N	Effi.
HLG-185H-36(A)	36V, 0~5.20A	±1.0%	200mV	93.5%
HLG-185H-42(A)	42V, 0~4.40A	±1.0%	200mV	94.0%
HLG-185H-48(A)	48V, 0~3.90A	±1.0%	200mV	94.0%
★ HLG-185H-54(A)	54V, 0~3.45A	±1.0%	200mV	94.0%

○ = A, B, D or Blank

## HLG-240H Series



Model No.	Output	Tol.	R&N	Effi.
★ HLG-240H-12(A)	12V, 0~16.0A	±2.5%	150mV	90.0%
HLG-240H-15(A)	15V, 0~15.0A	±2.0%	150mV	90.0%
HLG-240H-20(A)	20V, 0~12.0A	±1.0%	150mV	91.5%
★ HLG-240H-24(A)	24V, 0~10.0A	±1.0%	150mV	92.5%
HLG-240H-30(A)	30V, 0~8.00A	±1.0%	200mV	92.5%
HLG-240H-36(A)	36V, 0~6.70A	±1.0%	250mV	92.5%
HLG-240H-42(A)	42V, 0~5.72A	±1.0%	250mV	92.5%
★ HLG-240H-48(A)	48V, 0~5.00A	±1.0%	250mV	93.0%
HLG-240H-54(A)	54V, 0~4.45A	±1.0%	350mV	93.5%

○ = A, B, C, D or Blank

★ HLG-185H-12A/24A/48A & HLG-240H-12A/24A/48A are our popular models. We will keep sufficient stock for prompt delivery of high quantity orders.

# HLC series

320~600W High efficiency with PFC

## Features

- Universal AC input (up to 305VAC) / Full range
- Protections:
  - Short circuit / Over current / Over voltage / Over temp.
  - Built-in active PFC function
- High efficiency up to 96%
- IP67 / IP65 design for indoor or outdoor installations (except for HLG-320H C-Type)
- Output current adjustable through output cable or internal potentiometer
- Cooling by free air convection
- Suitable for LED lighting and street lighting applications
- Meet 4kV surge immunity level (IEC61000-4-5)
- No load power consumption <0.5W at remote off (HLG-600H)

- Type HL LED Driver for use in Class I, Division 2 hazardous location luminaires
- LED indicator for power on (HLG-600H A-Type only)
- Multiple models for choice:
  - A-Type:** IP65 rated. Output voltage and constant current level can be adjusted through internal potentiometer
  - B-Type:** IP67 rated and built-in 3 in 1 dimming function (1~10VDC, PWM signal, or resistance)
  - C-Type:** Terminal block for I/O connection (HLG-320H only)
  - Blank-Type:** IP67 rated. Cable for I/O connection (HLG-320H only)
  - D-Type(option):** IP67 rated. Timer dimming function, contact MEAN WELL for details (HLG-320H only)
- 5 years warranty

INPUT	
OUTPUT	
320W	600W



AC input voltage range	90~305VAC; 127~431VDC	
AC inrush current (max.)	Cold start, 70A at 230VAC	
DC adjustment range	-15%~+13.3% rated output voltage (A-Type & C-Type)	-15%~+5% rated output voltage (A-Type only)
Current adjustment range	50%~100% rated output current adjustable by internal potentiometer (for A-Type & HLG-320H C-Type)	
Over current protection	95%~108% constant current limiting, auto-recovery	
Over voltage protection	110%~140% rated output voltage	
Setup, rise, hold up time	500ms, 80ms, 15ms at full load and 230VAC	
Withstand voltage	I/P-O/P: 3.75kVAC, I/P-FG: 2kVAC, O/P-FG: 1.5kVAC	
Working temperature	-40~+70°C (refer to output de-rating curve)	
Safety standards	UL8750, TUV EN61347-1/2-13, PSE J61347-1/2-13 (HLG-320H A/B/D/Blank-Type only) approved	UL60950-1, UL8750, ENEC EN61347-1/2-13, EN62384 approved
EMC standards	EN55015, EN55022 class B, EN61000-3-2 class C, EN61000-3-3, EN61000-4-2,3,4,5,6,8,11,EN61547	
Connection	Input	A/B/D/Blank-Type: UL rated, SJTW 18AWGx3C (30cm); C-Type: Terminal block
	Output	A/D/Blank-Type: SJTW 14AWGx2C (30cm) B-Type: SJTW 14AWGx2C (30cm) + SJTW 18AWGx2C (30cm) C-Type: Terminal block
Dimension (LxWxH)(mm)	252x 90x 43.8	280x 144x 48.5

## HLG-320H Series



Model No.	Output	Tol.	R&N	Effi.
HLG-320H-12(A)	12V, 0~22.0A	±3.0%	150mV	91.0%
HLG-320H-15(A)	15V, 0~19.0A	±2.0%	150mV	92.5%
HLG-320H-20(A)	20V, 0~15.0A	±1.5%	150mV	93.5%
HLG-320H-24(A)	24V, 0~13.34A	±1.0%	150mV	94.0%
HLG-320H-30(A)	30V, 0~10.7A	±1.0%	200mV	94.0%
HLG-320H-36(A)	36V, 0~8.90A	±1.0%	250mV	94.5%
HLG-320H-42(A)	42V, 0~7.65A	±1.0%	250mV	95.0%
HLG-320H-48(A)	48V, 0~6.70A	±1.0%	250mV	95.0%
HLG-320H-54(A)	54V, 0~5.95A	±1.0%	350mV	95.0%

○ = A, B, C, D or Blank

## HLG-600H Series



Model No.	Output	Tol.	R&N	Effi.
HLG-600H-12(A)	12V, 0~40A	±3%	150mV	92.0%
HLG-600H-15(A)	15V, 0~36A	±2%	150mV	93.5%
HLG-600H-20(A)	20V, 0~28A	±1.5%	150mV	94.5%
HLG-600H-24(A)	24V, 0~25A	±1.0%	150mV	95.0%
HLG-600H-30(A)	30V, 0~20A	±1.0%	200mV	95.0%
HLG-600H-36(A)	36V, 0~16.7A	±1.0%	250mV	95.5%
HLG-600H-42(A)	42V, 0~14.3A	±1.0%	250mV	96.0%
HLG-600H-48(A)	48V, 0~12.5A	±1.0%	250mV	96.0%
HLG-600H-54(A)	54V, 0~11.2A	±1.0%	350mV	96.0%

○ = A, B

# HLG-C series

70~200W Constant Current with PFC

## Features

- Constant current output with high output voltage >60VDC
  - Universal AC input (up to 305VAC) / Full range
  - Built-in active PFC function
  - High efficiency up to 94%
  - Protections: Short circuit / Over voltage / Over temperature
  - Cooling by free air convection
  - Output current adjustable through output cable or internal potentiometer
  - IP67 / IP65 design for indoor or outdoor installations
  - Suitable for dry, damp, and wet location
- Suitable for LED lighting and street lighting applications
  - Multiple models for choice:
    - A-Type:** IP65 rated. Constant current level can be adjusted through internal potentiometer
    - B-Type:** IP67 rated and built-in 3 in 1 dimming function (1~10VDC, PWM signal, or resistance)
    - D-Type (option):** IP67 rated. Timer dimming function, contact MEAN WELL for details
  - 5 years warranty



AC input voltage range	90~305VAC; 127VDC~431VDC		
AC inrush current (max.)	Cold start, 60A at 230VAC		Cold start, 50A at 230VAC
Current adjustment range	60%~100%		50%~100%
Short circuit protection	Hiccup mode, auto-recovery		Constant current limiting, auto-recovery
Over temp. protection	Shut down o/p voltage, re-power on to recover		Shut down o/p voltage, auto-recovery
Setup, rise, hold up time	500ms, 80ms, 16ms at full load and 230VAC		
Withstand voltage	I/P-O/P:3.75kVAC, I/P-FG:2kVAC, O/P-FG:1.5kVAC		
Working temperature	-40~+70°C (refer to output derating curve)		
Safety standards	HLG-60H-C/80H-C: UL8750, TUV EN61347-1, EN61347-2-13 approved HLG-120H-C/185H-C: UL8750, ENEC EN61347-1, EN61347-2-13, EN62384 approved		
EMC standards	EN55015, EN61000-3-2 class C, EN61000-3-3, EN61000-4-2,3,4,5,6,8,11, EN61547		
Connection	Input	UL rated, SJTW 16AWGx3C(30cm)	
	Output	A&D-Type: SJTW 16AWGx2C(30cm) B-Type: SJTW 16AWGx2C(30cm)+ SJTW 16AWGx2C(30cm)	A&D-Type: STW 16AWGx2C(30cm) for HLG-120H-C350 and HLG-185H-C500; SJTW 16AWGx2C(30cm) for others B-Type: STW 16AWGx2C(30cm) + SJTW 16AWGx2C(30cm) for HLG-120H-C350 and HLG-185H-C500; SJTW 16AWGx2C(30cm) + SJTW 16AWGx2C(30cm) for others
Dimension (LxWxH)(mm)	171x 61.5x 36.8	195.6x 61.5x 38.8	220x 68x 38.8

### HLG-60H-C Series (70W)



Model No.	Output	Io Tol.	R&N	Effi.
HLG-60H-C350(A)	100~200V, 350mA	±5%	1V	91%
HLG-60H-C700(A)	50~100V, 700mA	±5%	0.5V	90.5%

○ = A, B or D

### HLG-80H-C Series (90W)



Model No.	Output	Io Tol.	R&N	Effi.
HLG-80H-C350(A)	167~257V, 350mA	±5%	1V	91.5%
HLG-80H-C700(A)	84~129V, 700mA	±5%	0.5V	91.5%

○ = A, B or D

### HLG-120H-C Series (150W)



Model No.	Output	Io Tol.	R&N	Effi.
HLG-120H-C350(A)	215~430V, 350mA	±5%	2V	94%
HLG-120H-C500(A)	150~300V, 500mA	±5%	1.5V	94%
HLG-120H-C700(A)	107~215V, 700mA	±5%	1V	94%
HLG-120H-C1050(A)	74~148V, 1050mA	±5%	1V	94%
HLG-120H-C1400(A)	54~108V, 1400mA	±5%	1V	93.5%

○ = A, B or D

### HLG-185H-C Series (200W)



Model No.	Output	Io Tol.	R&N	Effi.
HLG-185H-C500(A)	200~400V, 500mA	±5%	2V	94%
HLG-185H-C700(A)	143~286V, 700mA	±5%	1.5V	94%
HLG-185H-C1050(A)	95~190V, 1050mA	±5%	1V	94%
HLG-185H-C1400(A)	71~143V, 1400mA	±5%	1V	94%

○ = A, B or D

# HVG series

65~150W Wide Input Range with PFC

## Features

- 180~528VAC wide input range
- Protections: Short circuit / Over current / Over voltage / Over temperature
- Built-in active PFC function
- High efficiency up to 91.5%
- IP67 / IP65 design for indoor or outdoor installations
- Cooling by free air convection
- Output current adjustable through output cable or internal potentiometer
- Class 2 power unit / Pass LPS for HVG-65/100
- Suitable for dry, damp, and wet location
- Suitable for LED lighting and street lighting applications
- Multiple models for choice:
  - A-Type:** IP65 rated. Output voltage and constant current level can be adjusted through internal potentiometer
  - B-Type:** IP67 rated and **built-in 3 in 1 dimming function** (0~10VDC, PWM signal, or resistance)
  - D-Type (option):** IP67 rated. Timer dimming function, contact MEAN WELL for details
- 5 years warranty



		HVG-65	HVG-100	HVG-150
AC input voltage range		180~528VAC (single phase); 254~747VDC		
AC inrush current (max.)		Cold start, 25A at 480VAC	Cold start, 25A at 480VAC	Cold start, 35A at 480VAC
DC adjustment range		±10% rated output voltage		
Current adjustment range		60%~100%	55%~100%	
Over current protection		95%~108% constant current limiting, auto-recovery		
Over voltage protection		110%~140% rated output voltage		
Setup, rise, hold up time		400ms, 80ms, 16ms at full load and 347VAC/480VAC	500ms, 80ms, 30ms at full load and 347VAC/480VAC	400ms, 80ms, 18ms at full load and 347VAC/480VAC
Withstand voltage		I/P-O/P: 3.75kVAC, I/P-FG: 2kVAC, O/P-FG: 1.5kVAC		
Working temperature		-40~+70°C (refer to output derating curve)		
Safety standards		UL8750 approved		
EMC standards		EN55015, EN61000-3-2 class C, EN61000-3-3, EN61000-4-2,3,4,5,6,8,11, EN61547, FCC part 15 class B		
Connection	Input	UL rated, STW 18AWGx3C (30cm)		
	Output	A&D-Type	SVT 18AWGx2C (30cm)	SJTW 14AWGx2C (30cm)
		B-Type	SVT 18AWGx2C (30cm)+UL2517 18AWGx2C (30cm)	SJTW 14AWGx2C (30cm)+UL2517 18AWGx2C (30cm)
Dimension (LxWxH)(mm)		189x 61.5x 36.8	236x 68x 38.8	245x 68x 38.8

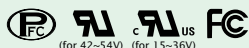
## HVG-65 Series



Model No.	Output	Tol.	R&N	Effi.
HVG-65-12(A)	12V, 0~5A	±2.0%	120mV	86.5%
HVG-65-15(A)	15V, 0~4.3A	±2.0%	150mV	87.5%
HVG-65-20(A)	20V, 0~3.25A	±1.0%	150mV	88.5%
HVG-65-24(A)	24V, 0~2.71A	±1.0%	150mV	89.0%
HVG-65-30(A)	30V, 0~2.17A	±1.0%	200mV	89.0%
HVG-65-36(A)	36V, 0~1.81A	±1.0%	200mV	89.5%
HVG-65-42(A)	42V, 0~1.55A	±1.0%	300mV	89.5%
HVG-65-48(A)	48V, 0~1.36A	±1.0%	300mV	90.0%
HVG-65-54(A)	54V, 0~1.21A	±1.0%	300mV	90.0%

○ = A, B or D

## HVG-100 Series



Model No.	Output	Tol.	R&N	Effi.
HVG-100-15(A)	15V, 0~5A	±2.0%	150mV	89.0%
HVG-100-20(A)	20V, 0~4.8A	±1.0%	150mV	90.0%
HVG-100-24(A)	24V, 0~4A	±1.0%	150mV	91.0%
HVG-100-30(A)	30V, 0~3.2A	±1.0%	200mV	91.0%

Model No.	Output	Tol.	R&N	Effi.
HVG-100-36(A)	36V, 0~2.65A	±1.0%	200mV	90.5%
HVG-100-42(A)	42V, 0~2.28A	±1.0%	200mV	90.5%
HVG-100-48(A)	48V, 0~2A	±1.0%	200mV	91.0%
HVG-100-54(A)	54V, 0~1.77A	±1.0%	200mV	91.0%

○ = A, B or D

## HVG-150 Series



Model No.	Output	Tol.	R&N	Effi.
HVG-150-12(A)	12V, 0~10A	±2.5%	150mV	87.0%
HVG-150-15(A)	15V, 0~10A	±2.0%	150mV	89.0%
HVG-150-20(A)	20V, 0~7.5A	±1.0%	150mV	90.5%
HVG-150-24(A)	24V, 0~6.25A	±1.0%	150mV	91.0%
HVG-150-30(A)	30V, 0~5A	±1.0%	200mV	91.0%
HVG-150-36(A)	36V, 0~4.17A	±1.0%	200mV	91.0%
HVG-150-42(A)	42V, 0~3.58A	±1.0%	200mV	91.0%
HVG-150-48(A)	48V, 0~3.13A	±1.0%	200mV	91.5%
HVG-150-54(A)	54V, 0~2.78A	±1.0%	200mV	91.5%

○ = A, B or D

# HVGC series

65~150W Wide Input Range with C.C. Output

## Features

- 180~528VAC wide input range
- Protections: Short circuit / Over voltage / Over temperature
- Built-in active PFC function
- High efficiency up to 91%
- IP67 / IP65 design for indoor or outdoor installations
- Cooling by free air convection
- Constant current mode
- Output current adjustable through output cable or internal potentiometer
- Suitable for dry, damp, and wet location
- Suitable for LED lighting and street lighting applications
- Multiple models for choice:
  - A-Type:** IP65 rated. Constant current level can be adjusted through internal potentiometer
  - B-Type:** IP67 rated and built-in 3 in 1 dimming function (0~10VDC, PWM signal, or resistance)
  - D-Type (option):** IP67 rated. Timer dimming function, contact MEAN WELL for details
- 5 years warranty



AC input voltage range	180~528VAC (single phase); 254~747VDC	
AC inrush current (max.)	Cold start, 25A at 480VAC	Cold start, 35A at 480VAC
Current adjustment range	60%~100%	
Over voltage protection	105%~115% rated output voltage	
Setup, rise, hold up time	400ms, 80ms, 16ms at full load and 347VAC/480VAC	500ms, 80ms, 30ms at full load and 347VAC/480VAC
Withstand voltage	I/P-O/P: 3.75kVAC, I/P-FG: 2kVAC, O/P-FG: 1.5kVAC	
Working temperature	-40~+70°C (refer to output derating curve)	
Safety standards	HVGC-65: UL8750, ENEC EN61347-1, EN61347-2-13, EN62384 approved HVGC-100/150: UL8750, TUV EN61347-1, EN61347-2-13 approved	
EMC standards	EN55015, EN61000-3-2 class C, EN61000-3-3, EN61000-4-2,3,4,5,6,8,11, EN61547, FCC part 15 class B	
Connection	Input	UL rated, STW 18AWGx3C (30cm)
	Output	A&D-Type: SJTW 18AWGx2C (30cm) B-Type: SJTW 18AWGx2C (30cm)+UL2517 18AWGx2C (30cm)
Dimension (LxWxH)(mm)	189x 61.5x 36.8	236x 68x 38.8

## HVGC-65 Series



Model No.	Output	Io Tol.	R&N	Effi.
HVGC-65-350(A)	18~186V, 350mA	±5%	1.0V	90.0%
HVGC-65-500(A)	13~130V, 500mA	±5%	0.7V	90.5%
HVGC-65-700(A)	9~93V, 700mA	±5%	0.5V	90.5%
HVGC-65-1050(A)	6~62V, 1050mA	±5%	0.3V	90.0%

○ = A, B or D

## HVGC-100 Series



Model No.	Output	Io Tol.	R&N	Effi.
HVGC-100-350(A)	29~285V, 350mA	±5%	1V	91%
HVGC-100-700(A)	15~142V, 700mA	±5%	0.5V	91%

○ = A, B or D

## HVGC-150 Series



Model No.	Output	Io Tol.	R&N	Effi.
HVGC-150-350(A)	42~428V, 350mA	±5%	2.0V	91%
HVGC-150-500(A)	30~300V, 500mA	±5%	1.5V	91%
HVGC-150-700(A)	21~215V, 700mA	±5%	1.0V	91%
HVGC-150-1050(A)	15~143V, 1050mA	±5%	0.7V	90%
HVGC-150-1400(A)	12~107V, 1400mA	±5%	0.5V	90%

○ = A, B or D



# HBG series

## 60~240W Circular Shape for Bay Lighting

### Description

HBG series are high performance LED power supplies specially designed for the high/low bay lighting and spot lighting applications. Featuring with circular shape, these series are easy to be assembled with the mechanical structure of high/low bay lighting fixtures. The enclosures can be perfectly configured with the heat sink of lighting fixtures and provide excellent heat dissipation ability, which solve the mechanism limits of old style bay lighting systems using slim shape LED power supplies. (HBG-60 also offers models in PCB type, allowing a better variety for lighting module design consideration.) As long as the temperature on the top of the enclosure can be controlled under 70°C, the power supply service life could be guaranteed up to 40,000 hours.

For more detail information, please visit our website: [www.meanwell.com/product/HBG/HBG.html](http://www.meanwell.com/product/HBG/HBG.html)

HBG-60	HBG-100	HBG-160	HBG-240
 <p><i>Under Development</i></p> <p>DxH: <math>\phi 100 \times 25 \text{mm}</math> DxH: <math>\phi 110 \times 40 \text{mm}</math></p>	 <p>DxH: <math>\phi 130 \times 66.5 \text{mm}</math></p>	 <p>DxH: <math>\phi 151.68 \times 66.5 \text{mm}</math></p>	 <p>DxH: <math>\phi 191.5 \times 69 \text{mm}</math></p>

### Features

- HBG-60: 90~295VAC input; HBG-100~240: 90~305VAC input
- Built-in active PFC function
- High efficiency up to 93.5%
- Protections: Short circuit / Over current / Over voltage / Over temp. (Short circuit / Over temp. for HBG-60)
- Output current adjustable through internal potentiometer
- Suitable for dry, damp, and wet location
- Two configurations for HBG-60 (constant current mode):
  - Blank-Type:** Enclosed type (plastic enclosure); **P-Type:** PCB type
- Multiple models for HBG-100/160/240 (aluminum case)
  - A-Type:** IP65 rated. Constant current level can be adjusted through internal potentiometer
  - B-Type:** IP67 rated and **built-in 3 in 1 dimming function** (1~10VDC, PWM signal, or resistance)
  - Blank-Type:** IP67 rated. Cable for I/O connection
  - E-Type(option):** IP67 rated. Can be fixed by steel support, contact MEAN WELL for details (HBG-100/160 only)

• 5 years warranty

### HBG-60 Series

UL/CUL/ENEC/CE pending

Model No.	Output	Io Tol.	Effi.
HBG-60-1050 ○	37~55V, 1050mA	±5%	91%
HBG-60-1400 ○	28~43V, 1400mA	±5%	90%
HBG-60-2100 ○	19~29V, 2100mA	±5%	89%

○ = Blank, P; Blank: Enclosed type, P: PCB type

### HBG-100 Series

UL/CUL/ENEC/CE pending

Model No.	Output	Tol.	Effi.
HBG-100-24(A)	24V, 0~4A	±2%	90.5%
HBG-100-36(A)	36V, 0~2.7A	±2%	91.0%
HBG-100-48(A)	48V, 0~2A	±2%	91.0%
HBG-100-60(A)	60V, 0~1.6A	±2%	91.5%

○ = A, B, E or Blank

### HBG-160 Series

UL/CUL/ENEC/CE pending

Model No.	Output	Tol.	Effi.
HBG-160-24(A)	24V, 0~6.5A	±2%	92.0%
HBG-160-36(A)	36V, 0~4.4A	±2%	92.0%
HBG-160-48(A)	48V, 0~3.3A	±2%	93.0%
HBG-160-60(A)	60V, 0~2.6A	±2%	93.5%

○ = A, B, E or Blank

### HBG-240 Series

UL/CUL/ENEC/CE pending


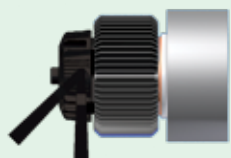


Model No.	Output	Tol.	Effi.
HBG-240-24(A)	24V, 0~10A	±2%	92.5%
HBG-240-36(A)	36V, 0~6.7A	±2%	92.5%
HBG-240-48(A)	48V, 0~5A	±2%	93.0%
HBG-240-60(A)	60V, 0~4A	±2%	93.5%

○ = A, B or Blank

### Construction of High Bay Light with HBG-100/160/240

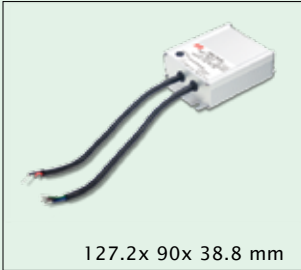


### Installations with HBG-100/160/240

Spot Light	Stage Light	High Bay Light	
			
		Chain Type	Hanger Type

# HSG/ULP series & Surge Protection Device

## HSG-70 series 70W Rectangular Metal Case



127.2x 90x 38.8 mm

- Universal AC input (up to 305VAC)
- Protections:
  - Short circuit / Over current / Over voltage / Over temperature
- Built-in active PFC function
- Output current adjustable through internal potentiometer
- IP65 design
- Cooling by free air convection
- Suitable for LED lighting and moving sign applications
- 3 years warranty

AC input voltage range	90~305VAC; 127~431VDC	
Current adjustment range	60%~100%	
Over current protection	95%~108% constant current limiting	
Over voltage protection	112%~140% rated output voltage	
Withstand voltage	I/P-O/P: 3.75kVAC, I/P-FG: 2kVAC, O/P-FG: 0.5kVAC	
Working temperature	-40~+70°C (refer to output derating curve)	
Safety standards	Design refer to UL 8750, EN61347-1, EN61347-2-13	
EMC standards	EN55015, EN61000-3-2 class C, EN61000-3-3, EN61547, EN61000-4-2,3,4,5,6,8,11	
Connection	Input	CCC 1.5mm <sup>2</sup> x2C (30cm)
	Output	H05RN-F 1.0mm <sup>2</sup> x3C (30cm)

Model No.	Output	Tol.	R&N	Effi.
HSG-70-12	12V, 0~5A	±2.5%	150mV	88%
HSG-70-18	18V, 0~4A	±2.0%	200mV	89%
HSG-70-24	24V, 0~3A	±1.0%	200mV	89%
HSG-70-36	36V, 0~2A	±1.0%	200mV	90%
HSG-70-48	48V, 0~1.5A	±1.0%	200mV	90%

## ULP-150 series 150W U-Bracket Single Output with PFC



215x 67.4x 33 mm

- Universal AC input (up to 295VAC)
- Built-in active PFC function
- High efficiency up to 93%
- Protections:
  - Short circuit / Overload / Over voltage / Over temperature
- **Constant voltage mode**
- Cooling by free air convection
- U-bracket low profile: 33mm
- 3 years warranty

AC input voltage range	90~295VAC; 127~417VDC
AC inrush current (max.)	Cold start, 65A at 230VAC
Overload protection	130%~185% hiccup mode, auto-recovery
Over voltage protection	110%~135% rated output voltage
Setup, rise, hold up time	500ms, 100ms, 16ms at full load and 230VAC
Withstand voltage	I/P-O/P: 3.75kVAC, I/P-FG: 2kVAC, O/P-FG: 0.5kVAC
Working temperature	-30~+70°C (refer to output derating curve)
Safety standards	Design refer to UL8750, EN61347-1, EN61347-2-13
EMC standards	EN55015, EN61000-3-2 class C, EN61000-3-3, EN61547, EN61000-4-2,3,4,5,6,8,11

Model No.	Output	Tol.	R&N	Effi.
ULP-150-12	12V, 0~12.5A	±2%	100mV	91.5%
ULP-150-15	15V, 0~10A	±2%	150mV	91.5%
ULP-150-24	24V, 0~6.3A	±2%	150mV	93.0%
ULP-150-36	36V, 0~4.2A	±2%	250mV	93.0%
ULP-150-48	48V, 0~3.2A	±2%	250mV	93.0%

## SPD-20 20kA Surge Protection Device



90x 70x 50 mm

- UL1449 3<sup>rd</sup> Edition, Type 2 component assemblies
- Line to Ground & Line to Line protected
- Parallel (3 wires) connection style
- LED status indicators
- IP67 design
- Suitable for surge protection of LED drivers

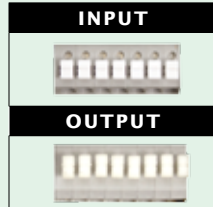


Model No.	SPD-20-240P		SPD-20-277P
Operating voltage	240VAC, 50/60Hz		277VAC, 50/60Hz
MCOV (Max. Continuous Operating Voltage)	300VAC		320VAC
VPR (Voltage Protection Rating)	≤1500V (L-FG, N-FG, L-N)		
IN (Nominal Discharge Current)	5kA		
Max. Surge Current (8/20μs)	20kA		
SCCR (Short Circuit Current Rating)	5kA		
Response time	<25ns		
Operating temperature	-40~+70°C		
Safety standard	UL1449 3 <sup>rd</sup> Edition, TUV EN61643-11 approved		UL1449 3 <sup>rd</sup> Edition approved
Connection	L (Black)	FEP 10AWG (15cm)	
	N (White)		
	FG (Green)		

# DALI to PWM Converter & DC/DC Driver

## DAP-04

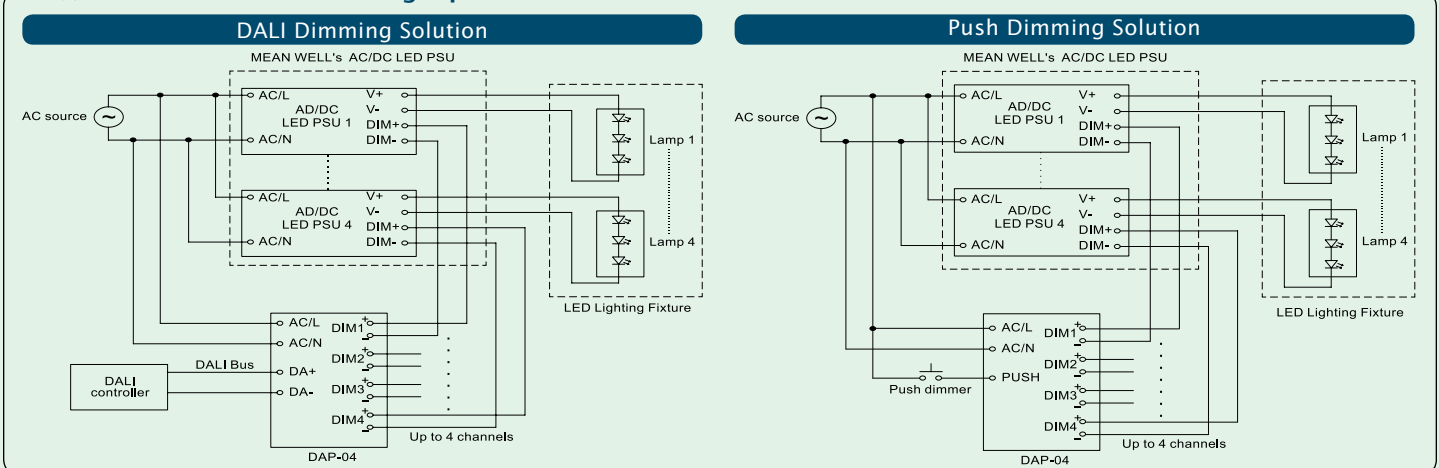
## 4 Channel DALI to PWM Converter



- Universal AC input (up to 305VAC)
- Convert DALI signal to PWM signal
- 4 DALI addressable output channels
- Built-in push dim function
- Dimming range: 1~100%
- Comply with DALI standards (IEC62386-101,102,207)
- PWM active high or active low selectable
- Linear or logarithm dimming curve selectable (comply with IEC62386-207)
- Built-in relay for ON/OFF control of LED PSU
- Fully isolated plastic case
- Class II power unit, no FG
- Power consumption < 0.5W
- Suitable to use along with MEAN WELL's AC/DC LED PSU with 3-in-1 dimming function
- 3 years warranty

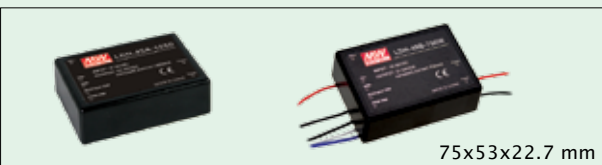
AC input voltage range	90~305VAC ; 127~431VDC
Power consumption(typ.)	0.5W
Input signal	DALI or push dim
Output signal	PWM, 1 KHz
Output channel	4 channels
Output PWM logic	Active high or active low selectable by jumper (Factory setting is active high)
Working temperature	-30~+60°C (refer to output derating curve)
Safety standards	EN61347-1, EN61347-2-11, EN61058-1 clause 8/17/20/25 approved
DALI standards	Comply with IEC62386-101, 102, 207
EMC standards	EN55015, EN61000-3-2,3, EN61000-4-2,3,4,5,6,8,11, EN61547

### Connection of Dimming Operation



## LDH-45 Series

## DC-DC Constant Current LED Driver



- Constant current step-up LED driver
- Wide input and output voltage range
- High efficiency up to 95%
- PWM + analog dimming and remote ON/OFF control
- Protections: Short circuit / Over voltage / Under voltage
- Cooling by free air convection
- Operating temperature range: -40~+70°C
- Fully enclosed plastic case (UL 94V-0)
- 3 years warranty

Output current accuracy	±5%	
PWM dimming & ON/OFF control	Remote ON/OFF	Leave open if not used ▪ Power ON with dimming: DIM ~ DIM- > 2~8VDC or open circuit ▪ Power OFF: DIM ~ DIM- < 0.5VDC or short
	PWM frequency	1K~10KHz
Analog dimming & ON/OFF control	Remote ON/OFF	Leave open if not used ▪ Power ON with dimming: Analog DIM ~ DIM- > 0.25~8VDC or open circuit ▪ Power OFF: Analog DIM ~ DIM- < 0.2VDC or short
	Short circuit protection	Power OFF and fuse open
Over voltage protection	> 116% rated output voltage	
Working temperature	-40~+70°C (refer to output derating curve)	
EMC standards	EN55015, EN61547, EN61000-4-2,3,4,6,8	

### LDH-45A Series

Model No.	Input (VDC)	Output		Io Tol.	Effi.
		Voltage (VDC)	Current (mA)		
LDH-45A-350	9~18	12~86	350mA	±5%	91%
LDH-45A-500	9~18	12~86	500mA	±5%	90%
LDH-45A-700	9~18	12~64	700mA	±5%	90%
LDH-45A-1050	9~18	12~43	1050mA	±5%	91%

### LDH-45B Series

Model No.	Input (VDC)	Output		Io Tol.	Effi.
		Voltage (VDC)	Current (mA)		
LDH-45B-350	18~32	21~126	350mA	±5%	93%
LDH-45B-500	18~32	21~86	500mA	±5%	94%
LDH-45B-700	18~32	21~64	700mA	±5%	95%
LDH-45B-1050	18~32	21~43	1050mA	±5%	95%

□ = Blank, W ; Blank: pin style, W: wire style

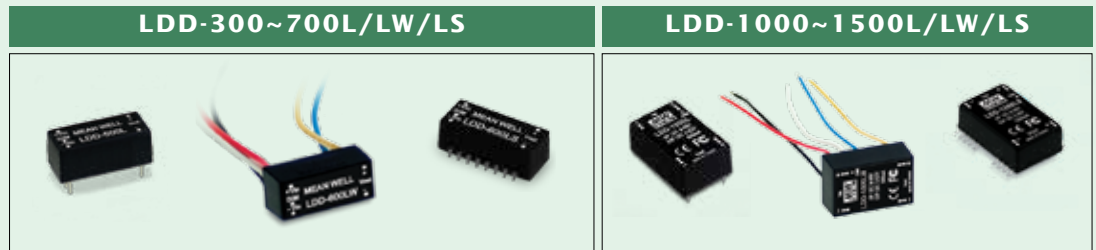
□ = Blank, W ; Blank: pin style, W: wire style

# LDD-L series

## DC-DC Constant Current LED Driver

### Features

- Constant current step-down LED driver
- Wide input and output voltage range
- High efficiency up to 95%
- Comply with EN55015 and FCC part 15 without additional input filter and capacitors
- 300~700mA: PWM dimming and remote ON/OFF control  
1000~1500mA: PWM + analog dimming and remote ON/OFF control
- Protections: Short circuit / Over temperature (300~700mA only)
- Compact size
- Operating temperature range:  
300 ~ 700mA: -40~+85°C  
1000~1500mA: -40~+71°C
- Cooling by free air convection
- Fully enclosed plastic case (UL 94V-0)
- Low cost, high reliability
- 3 years warranty



		LDD-300~700L/LW/LS	LDD-1000~1500L/LW/LS
Output current accuracy		±5% at 24VDC input	
PWM dimming & ON/OFF control	Remote ON/OFF	Leave open if not used ■ Power ON with dimming: DIM ~ -Vin >3.5~8VDC or open circuit ■ Power OFF: DIM ~ -Vin <0.5VDC or short	■ Power ON with dimming: DIM ~ -Vin >2.6~5.5VDC or open circuit ■ Power OFF: DIM ~ -Vin <0.4VDC or short
	PWM frequency	100~1KHz	100~500Hz
Analog dimming & ON/OFF control	Remote ON/OFF	Non	Leave open if not use ■ Power ON with dimming: DIM ~ -Vin >0.5~2.5VDC or open circuit ■ Power OFF: DIM ~ -Vin <0.4VDC or short
Short circuit protection		Regulated at rated output current, can be continued, auto-recovery	
Over temp.protection		Shut down, recovers automatically after temperature goes down	Non
Working temperature		-40~+85°C (refer to output derating curve)	-40~+71°C (refer to output derating curve)
EMC standards		EN55015, EN61547, EN61000-4-2,3,4,6,8, FCC part 15 class B	
Operating case temp. (max.)		100°C	
Dimension (LxWxH) (mm)		LDD-300~700L/LW: 22.6x 9.9x 8.9 LDD-300~700LS: 25.4x 10.5x 9.3	LDD-1000~1500L/LW: 31.8x 20.3x 12.2 LDD-1000~1500LS: 31.8x 20.3x 10.9

### LDD-L Series



Model No.	Input (VDC)	Output		Io Tol.	Effi.	Dimming
		Voltage (VDC)	Current (mA)			
LDD-300L <input type="checkbox"/>	9~36 (LDD-300~700LS: 9~32)	2~32 (LDD-300~700LS: 2~28)	300	±5%	95%	PWM
LDD-350L <input type="checkbox"/>			350			
LDD-500L <input type="checkbox"/>			500			
LDD-600L <input type="checkbox"/>			600			
LDD-700L <input type="checkbox"/>			700			
LDD-1000L <input type="checkbox"/>	6~36	2~30	1000			PWM + Analog
LDD-1200L <input type="checkbox"/>			1200			
LDD-1500L <input type="checkbox"/>			1500			

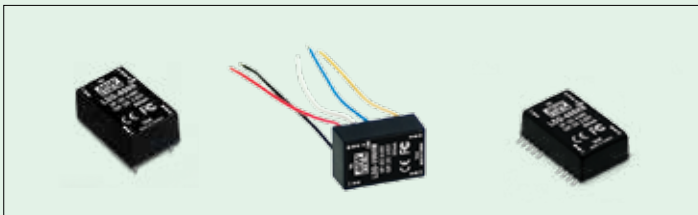
= Blank, W, S ; Blank: pin style, W: wire style, S: SMD style

# LDD-H&LDB-L series

## DC-DC Constant Current LED Driver

### LDD-H/HW/HS

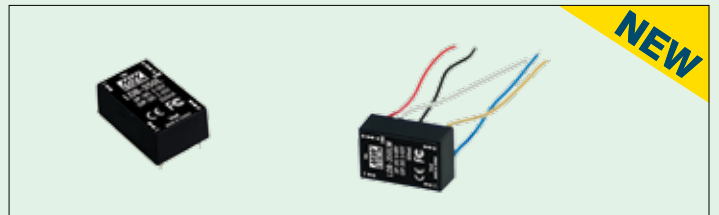
- Constant current step-down LED driver
- Wide input and output voltage range
- High efficiency up to 97%
- Comply with EN55015 and FCC part 15 without additional input filter and capacitors
- PWM dimming and remote ON/OFF control
- Protections: Short circuit / Over temp.
- Compact size
- Operating temperature range: -40~+85°C
- Cooling by free air convection
- Fully enclosed plastic case (UL 94V-0)
- 3 years warranty



Output current accuracy		±3% at 24VDC input; ±4% at 48VDC input for LDD-H/HW; ±5% at 48VDC input for LDD-HS
PWM dimming & ON/OFF control	Remote ON/OFF	Leave open if not used <ul style="list-style-type: none"> <li>▪ Power ON with dimming: DIM ~ -Vin &gt;2.5~6VDC or open circuit</li> <li>▪ Power OFF: DIM ~ -Vin &lt;0.8VDC or short</li> </ul>
	PWM frequency	100~1KHz
Short circuit		Regulated at rated output current, can be continued, auto-recovery
Over temperature protection		Shut down, recovers automatically after temperature goes down
Working temperature		-40~+85°C
EMC standards		EN55015, EN61547, EN61000-4-2,3,4,6,8, FCC part 15 class B
Operating case temp. (max.)		100°C
Dimension (LxWxH)(mm)		LDD-H/HW: 31.8x 20.3x 12.2 LDD-HS: 31.8x 20.3x 10.9

### LDB-L/LW

- Constant current buck-boost LED driver
- Wide input and output voltage range
- High efficiency up to 90%
- Comply with EN55015 and FCC part 15 without additional input filter and capacitors
- PWM dimming and remote ON/OFF control
- Protections: Short circuit / Over temp.
- Operating temperature range: -40~+71°C
- Cooling by free air convection
- Fully enclosed plastic case (UL 94V-0)
- 3 years warranty



Output current accuracy		±5%
PWM dimming & ON/OFF control	Remote ON/OFF	Leave open if not used <ul style="list-style-type: none"> <li>▪ Power ON with dimming: DIM ~ -Vin &gt;2~5VDC or open circuit</li> <li>▪ Power OFF: DIM ~ -Vin &lt;0.1VDC or short</li> </ul>
	PWM frequency	1KHz
Short circuit		Regulated at rated output current, can be continued, auto-recovery
Over temperature protection		Shut down, recovers automatically after temperature goes down
Working temperature		-40~+71°C
EMC standards		EN55015, EN61547, EN61000-4-2,3,4,6,8, FCC part 15 class B
Operating case temp. (max.)		110°C
Dimension (LxWxH)(mm)		31.8x 20.3x 12.2

### LDD-H Series



Model No.	Input (VDC)	Output		Io Tol.	Effi.
		Voltage (VDC)	Current (mA)		
LDD-300H □	9~56	2~52	300	±4%	97%
LDD-350H □	9~56	2~52	350	±4%	97%
LDD-500H □	9~56	2~52	500	±4%	97%
LDD-600H □	9~56	2~52	600	±4%	97%
LDD-700H □	9~56	2~52	700	±4%	97%
LDD-1000H □	9~56	2~52	1000	±4%	97%

□ = Blank, W, S ; Blank: pin style, W: wire style, S: SMD style

### LDB-L Series








Model No.	Input (VDC)	Output		Io Tol.	Effi.
		Voltage (VDC)	Current (mA)		
LDB-300L □	9~36	2~40	300	±5%	90%
LDB-350L □	9~36	2~40	350	±5%	90%
LDB-500L □	9~30	2~32	500	±5%	90%
LDB-600L □	9~28	2~30	600	±5%	90%

□ = Blank, W ; Blank: pin style, W: wire style


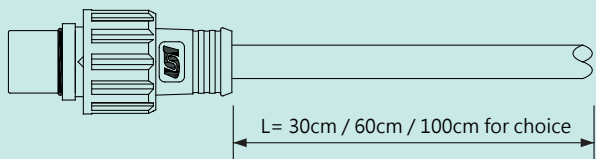
# Waterproof Output Connector

## Female Waterproof Output Connector (Power supply side)

Waterproof Connector	Pin Configuration (Female)								
	M12		M15		M20.5		M20.8		
		Order No. : M12-02		Order No. : M12-04		Order No. : M15-02		Order No. : M20.5-02	Order No. : M20.8-02
	2-pin (5A/PIN)	Suitable Current : 5A max.	4-pin (5A/PIN)	Suitable Current : 10A max.	2-pin (12A/PIN)	Suitable Current : 12A max.	2-pin (20A/PIN)	Suitable Current : 20A max.	Suitable Current : 20A max.

- ▶ The output cable can be modified to include different waterproof connectors by MEAN WELL. Minimum order quantity may vary for different models.
- ▶ We would suggest you to order the configurations of "M15 connector with length of 20cm / 30cm / 45cm / 60cm / 80cm / 100cm cables" due to its cost effectiveness and fast delivery. Ordering other connector type or cable lengths will have higher cost and longer lead-time.
- ▶ Suitable for CLG / HLG / HLG-C / HVG(C) / HBG / CEN / HSG / HLN / LPF / NPF / PWM / OWA series.

## Male Waterproof Output Connector with Cable (System side)

Figure	Drawing
	

- ▶ MEAN WELL offers male waterproof connectors with cable length of 30cm, 60cm, and 100cm as our standard mating accessories. These mating accessories need to be ordered together with PSU. For other length or cable style, the higher MOQ requirement and long lead-time will be expected. Please consult MEAN WELL for details.

## Order No.

### M12-02M-30-U1-UN

① ② ③ ④ ⑤ ⑥

Connector Type: Male / Female

①	M12	M15	M20.5	M20.8
	UN & CH	UN & CH	UN only	CH only

No. of PIN

②	2P	4P	M15, M20.5 and M20.8 only have 2-pin choice
	2pin	4pin	

③	M	F
	Male (System Side)	Female (PSU Side)

Cable Length: Male with Cable

④	30	60	100
	30cm	60cm	100cm

Cable Length: Female with Cable

	20	30	45	60	80	100
	20cm	30cm	45cm	60cm	80cm	100cm


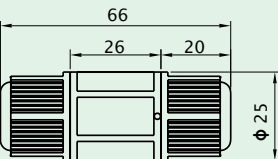
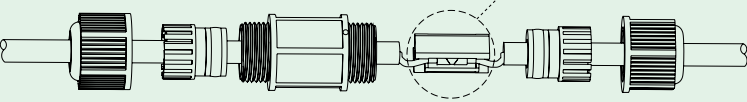
Cable Type

⑤	U1	E1
	SJTW (USA)	H05RN-F (EURO)

Brand Name

⑥	UN	CH
	UNICABLE (Made in Taiwan)	CHOGORI (Made in China)

## Waterproof Cable Joiner

	
Order No. : CJ04-1 CJ04-2	
	<p>CJ04-1 suitable for 14AWG~16AWG CJ04-2 suitable for 18AWG~22AWG</p> <p>Up to four wires can be connected through this cable joiner by soldering or clamping by tools.</p>

- ▶ CJ04 cable joiner can be purchased independently for user's own assembly.

# How to Choose A Suitable LED Power Supply?

- Decide a suitable wattage level, including safety margin.
- Verify your design of LED driving circuit: direct drive by PSU [choose a constant current (C.C.) mode LED power supply] or add additional driving IC to get a more precise constant current level [choose LDD, LDH or LDB].
- Verify whether the application need PFC function.
- Verify location of assembly and the required level against dust and humidity for the LED power supply (enclosure style, IP level, dry/damp/wet location).
- Verify the required safety certificates.
- Need to adjust the output voltage and/or output current or need the dimming function ?

## ► Suggested System Design

Setting	Circuit Diagram	Description	Advantage & Disadvantage
Use constant current (C.C.) mode power supply only		<p>Using MEAN WELL's C.V. + C.C. mode or C.C. mode LED power supply as constant current source and feed the LED arrays directly.</p> <p>MEAN WELL product:                      APC / LPC / ELN / PLN / PLC / LPF / NPF / OWA / HLN / GSC / PLD / PLM / CLG / CEN / HLG / HLG-C / HSG / HVG / HVGC / HBG / PLP / HLP / LCM families</p>	<p><b>Advantage</b></p> <ul style="list-style-type: none"> <li>• Simplest design, no need LED driver IC</li> <li>• Lower price</li> <li>• Higher efficiency with the best lumen per watt(lm/w)</li> </ul> <p><b>Disadvantage</b></p> <ul style="list-style-type: none"> <li>• Unbalanced driving current and shorter LED life time</li> <li>• LED chips should be sorted for similar VF</li> </ul>
Use constant voltage (C.V.) mode power supply with DC-DC LED driver		<p>Using AC/DC C.V. mode LED power supply and separate DC/DC LED drivers.</p> <p>MEAN WELL product:                      Any AC/DC LED power supply + LDD, LDH or LDB series (DC/DC LED driver)</p>	<p><b>Advantage</b></p> <ul style="list-style-type: none"> <li>• Independent output channels, the most balanced current for paralleled LED strips</li> <li>• No need to sort the VF of LED</li> <li>• Longer LED lifetime</li> <li>• Failures in any string do not affect the other strings</li> </ul> <p><b>Disadvantage</b></p> <ul style="list-style-type: none"> <li>• Higher price</li> <li>• Complicated circuit design</li> <li>• Lower system efficiency</li> <li>• Larger in power supply volume</li> </ul>

# Quick Selection Map

## Note 1

At the moment of power on, the LED power supply will work in C.V. mode and can provide a peak output current; after the LED turns on, the LED power supply will go into C.C. mode.

## Note 2

The C.C. only LED power supplies are suitable for directly driving LED modules, but not suitable for connecting with additional DC-DC LED drivers.

**AC-DC**  
Constant Voltage + Constant Current (C.V.+C.C.)  
**Note 1**

PFC

Metal Case

Plastic Case

Non-PFC










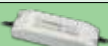











Plastic Case

**AC-DC**  
Constant Current (C.C.)  
**Note 2**

PFC

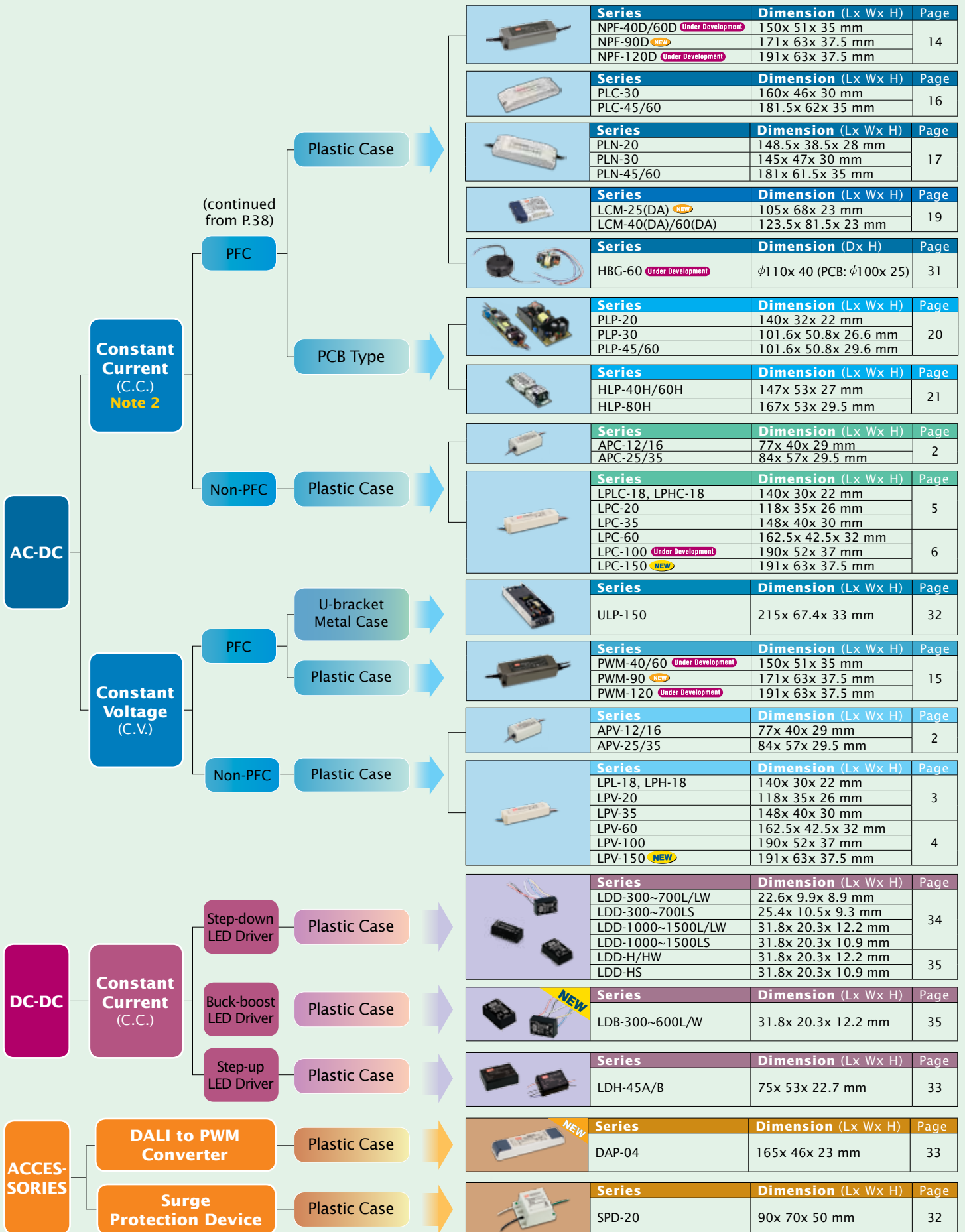
Metal Case

Plastic Case

	<b>Series</b>	<b>Dimension (Lx Wx H)</b>	<b>Page</b>
	CLG-100	222.2x 68x 38.8 mm	23
	CLG-150	229x 68x 38.8 mm	
	<b>Series</b>	<b>Dimension (Lx Wx H)</b>	<b>Page</b>
	HLG-40H/60H	171x 61.5x 36.8 mm	24
	HLG-80H	195.6x 61.5x 38.8 mm	25
	HLG-100H/120H	220x 68x 38.8 mm	
	HLG-150H/185H	228x 68x 38.8 mm	26
	HLG-240H	251x 68x 38.8 mm	
HLG-320H	252x 90x 43.8 mm	27	
HLG-600H <small>NEW</small>	280x 144x 48.5 mm		
	<b>Series</b>	<b>Dimension (Lx Wx H)</b>	<b>Page</b>
	HVG-65 <small>NEW</small>	189x 61.5x 36.8 mm	29
	HVG-100	236x 68x 38.8 mm	
HVG-150	245x 68x 38.8 mm		
	<b>Series</b>	<b>Dimension (Dx H)</b>	<b>Page</b>
	HBG-100	φ130x 66.5	31
	HBG-160	φ151.68x 66.5	
HBG-240	φ191.5x 69		
	<b>Series</b>	<b>Dimension (Lx Wx H)</b>	<b>Page</b>
HSG-70	127.2x 90x 38.8 mm	32	
	<b>Series</b>	<b>Dimension (Lx Wx H)</b>	<b>Page</b>
	OWA-90E/U <small>NEW</small>	171x 63x 37.5 mm	9
OWA-120E/U <small>Under Development</small>	191x 63x 37.5 mm		
	<b>Series</b>	<b>Dimension (Lx Wx H)</b>	<b>Page</b>
	LPF-16/25	148x 40x 32 mm	13
	LPF-40/60	162.5x 43x 32 mm	
LPF-90	161x 61x 36 mm		
	<b>Series</b>	<b>Dimension (Lx Wx H)</b>	<b>Page</b>
	NPF-40/60 <small>Under Development</small>	150x 51x 35 mm	14
	NPF-90 <small>NEW</small>	171x 63x 37.5 mm	
NPF-120 <small>Under Development</small>	191x 63x 37.5 mm		
	<b>Series</b>	<b>Dimension (Lx Wx H)</b>	<b>Page</b>
PLC-100	200.5x 69.5x 35 mm	16	
	<b>Series</b>	<b>Dimension (Lx Wx H)</b>	<b>Page</b>
PLN-100	200x 70.5x 35 mm	17	
	<b>Series</b>	<b>Dimension (Lx Wx H)</b>	<b>Page</b>
	HLN-40H/60H	161x 61.5x 35 mm	18
HLN-80H	181x 61.5x 35 mm		
	<b>Series</b>	<b>Dimension (Lx Wx H)</b>	<b>Page</b>
	ELN-30	145x 47x 30 mm	7
ELN-60	181x 61.5x 35 mm		
	<b>Series</b>	<b>Dimension (Lx Wx H)</b>	<b>Page</b>
OWA-60E/U <small>Under Development</small>	130x 53x 35 mm	9	
	<b>Series</b>	<b>Dimension (Lx Wx H)</b>	<b>Page</b>
	CEN-60/75	185x 62.5x 40.5 mm	22
CEN-100	195x 62.5x 40.5 mm		
	<b>Series</b>	<b>Dimension (Lx Wx H)</b>	<b>Page</b>
CLG-60	195.6x 61.5x 38.8 mm	23	
	<b>Series</b>	<b>Dimension (Lx Wx H)</b>	<b>Page</b>
	HLG-60H-C	171x 61.5x 36.8 mm	28
	HLG-80H-C	195.6x 61.5x 38.8 mm	
	HLG-120H-C	220x 68x 38.8 mm	
HLG-185H-C	228x 68x 38.8 mm		
	<b>Series</b>	<b>Dimension (Lx Wx H)</b>	<b>Page</b>
	HVGC-65 <small>NEW</small>	189x 61.5x 36.8 mm	30
	HVGC-100	236x 68x 38.8 mm	
HVGC-150	245x 68x 38.8 mm		
	<b>Series</b>	<b>Dimension (Lx Wx H)</b>	<b>Page</b>
GSC18/25/40 <small>Under Development</small>	79x 54x 33 mm	8	
	<b>Series</b>	<b>Dimension (Lx Wx H)</b>	<b>Page</b>
	PCD-16/25	84x 57x 29.5 mm	10
	PCD-40/60	128x 60x 31.5 mm	
PLD-16/25	84x 57x 29.5 mm		
PLD-40/60	128x 60x 31.5 mm	11	
	<b>Series</b>	<b>Dimension (Lx Wx H)</b>	<b>Page</b>
	PLM-12/25	145x 38x 22 mm	12
PLM-40	175x 42x 24 mm		
	<b>Series</b>	<b>Dimension (Lx Wx H)</b>	<b>Page</b>
	LPF-16D/25D	148x 40x 32 mm	13
	LPF-40D/60D	162.5x 43x 32 mm	
	LPF-90D	161x 61x 36 mm	



# Quick Selection Map



# Comparison Chart

Family		PFC (Note 2)		AC Input Range (VAC)	Potted	C.C. or C.V. (Note 1)	IP	Dimming (Note 3)	Vo / Io Adj	Max. Eff.	Warranty (years)	Remark	
Series Name	Type (Note 4)	Single Stage	Two Stage										
HLG-40H / 60H / 80H / 100H / 120H / 150H / 185H / 240H / 320H / 600H	A ★			90~305	✓	C.V.+C.C.	65		✓	96%	5	Vo<60VDC	
	B						67	3 in 1					
	C (240W/320W only)		✓										✓
	Blank (40W~320W)							67					
	D (option, 40~320W)							67	Timer				
HLG-60H-C / 80H-C / 120H-C / 185H-C	A ★			90~305	✓	C.C.	65		Io	94%	5	Vo>60VDC	
	B						67	3 in 1					
	D (option)						67	Timer					
HBG	60	Blank (enclosed)	✓	90~295		C.C.			Io	91%	5	Circular shape	
		P (PCB)						✓ (half)					
	100 / 160 / 240	A			90~305	✓	C.V.+C.C.	65		Io			93.5%
		B						67	3 in 1				
		Blank						67					
E (option, 100W/160W only)				67									
HVG(C)-65 / 100 / 150	A ★			180~528	✓	HVG : C.V.+C.C. HVG C : C.C.	65		HVG: ✓ HVGC:Io	91.5%	5		
	B		✓				67	3 in 1					
	D (option)						67	Timer					
HSG-70			✓	90~305	✓	C.V.+C.C.	65		Io	90%	3		
CLG-150	A ★			90~295	✓	C.V.+C.C.	65		✓	91%	3		
	B						67	Resistance					
	C		✓										✓
	Blank							67					
CLG-100			✓	90~295	✓	C.V.+C.C.	67			88.5%	3		
CLG-60		✓		90~295	✓	C.C.	67			89%	3		
CEN-60 / 75 / 100		✓		90~295		C.C.	66		✓	91%	3		
ULP-150			✓	90~295	✓ (half)	C.V.			Vo	93%	3	U-bracket	
HLN-40H / 60H / 80H	A			90~305	✓ (60W/80W half)	C.V.+C.C.	64		✓	91%	3		
	B		✓										3 in 1
LPF-16□ / 25□ / 40□ / 60□ / 90□	D			90~305	✓	Blank Type : C.V.+C.C. D-Type : C.C.	67 (16W option)	3 in 1		90.5%	5		
	Blank		✓										
NPF-40□ / 60□ / 90□ / 120□	D			90~305	✓	Blank Type : C.V.+C.C. D-Type : C.C.	67	3 in 1		91%	5		
	Blank		✓										
PWM-40 / 60 / 90 / 120			✓	90~305	✓	C.V.	67	0~10Vdc & PWM		91%	5	PWM output	
OWA- 90 / 120			✓	90~264	✓	C.V.+C.C.	67*			91%	5	External type	

# Comparison Chart

Family		PFC (Note 2)		AC Input Range (VAC)	Potted	C.C. or C.V. (Note 1)	IP	Dimming (Note 3)	Vo / Io Adj	Max. Eff.	Warranty (years)	Remark
Series Name	Type (Note 4)	Single Stage	Two Stage									
PLN-100			✓	90~295		C.V.+C.C.	64		✓	88.5%	2	
PLN-30 / 45 / 60		✓		90~295		C.C.	64		✓	89%	2	
PLN-20		✓		90~277		C.C.	64		Io	83.5%	2	
PLC-100			✓	90~264		C.V.+C.C.			✓	90%	2	Terminal block I/O
PLC-30 / 45 / 60		✓		90~264		C.C.			✓	89%	2	Terminal block I/O
PCD-16 / 25 / 40 / 60		✓		A: 90~135 B: 180~295	✓ (16W/25W/60W half)	C.C.	30	AC Phase-Cut		87%	3	
PLD-16 / 25 / 40 / 60		✓		16W/40W/60W: A: 90~135 B: 180~295 25W: 90~295	✓ (16W/25W/60W half)	C.C.	30			88%	3	
GSC18 / 25 / 40		✓		90~277	(40W half)	C.C.	30			88%	3	External type
PLM-12 / 25 / 40		✓		110~295		C.C.	30			88%	2	Push terminal
LCM-25 / 40 / 60			✓	25W: 180~277 40W/60W: 180~295		C.C.	20	0~10Vdc & PWM		92%	3	Io level selectable in one power unit
LCM-25DA / 40DA / 60DA								DALI & Push DIM				
PLP-20 / 30 / 45 / 60		✓		20W: 90~277 30~60W: 90~264		C.C.			Io	89%	2	PCB type
HLP-40H / 60H / 80H			✓	90~305		C.C.		3 in 1	✓	90.5%	3	PCB type
OWA-60				90~264	✓	C.V.+C.C.	67*			91%	5	External type
ELN-30 / 60				90~264		C.V.+C.C.	64	1.1~10Vdc or PWM	✓	88%	2	
LPL-18 / LPH-18 LPV-20 / 35 / 60 / 100 / 150				LPL: 90~132 LPH: 180~264 LPV-20~100: 90~264 LPV-150: 180~305	✓	C.V.	67			90%	2	
LPLC-18 / LPHC-18 LPC-20 / 35 / 60 / 100 / 150				LPLC: 90~132 LPHC: 180~264 LPC-20~60: 90~264 LPC-150: 180~305	✓	C.C.	67			90%	2	
APC-12 / 16 / 25 / 35				90~264	✓ (16W/35W half)	C.C.	30			84%	2	
APV-12 / 16 / 25 / 35				90~264	✓ (16W/35W half)	C.V.	30			85%	2	

**Note 1** C.V. represents Constant Voltage Mode Output, whereas C.C. represents Constant Current Mode Output. For C.V.+C.C., C.C., and C.V. operations, please refer to Application Q&A section on MEAN WELL LED website. (The C.C. only LED power supplies are suitable for directly driving LED modules, but not suitable for connecting with additional DC-DC LED drivers.)

**Note 2** ■ Single-Stage PFC : No hold-up time and higher Ripple & Noise. Not recommended to use in regions with unstable utility.  
 ■ Two-Stage PFC : Longer hold-up time and lower Ripple & Noise. Suitable for LED lighting and general industrial applications.  
 ■ Non-PFC : PF<0.6 and target at regions where PF compliance is not required.

**Note 3** 3-in-1 dimming: 1~10Vdc, PWM signal, or resistance. Timer: Timmer dimming function, please contact MEAN WELL for details.

**Note 4** ★ are popular models and will have sufficient stock for prompt delivery of high quantity orders.

**Note 5** \* IP67 design for main body



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